

The
Quarterly Journal
of the
Mythic Society

Volume XVI
(for the Year 1925-26)

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INDEX TO VOL. XVI.

Papers read or contributed—

	PAGES.
Age of the First Manu, The	25— 31
Ancient South Indian History, A Problem of ..	143—157
Annual Meeting of the Mythic Society, The Fifteenth ..	1— 12
Arthasastra, The Date of the	40— 42
Aryabhata, The Mathematics of	158—179
Beetle Myths and Folktales, The	13— 14
Bird and Serpent Myth, The	<div style="display: inline-block; vertical-align: middle;"> { 79— 92 and 180—200 </div>
Bird-Myths, Studies in—Brahminy Duck	125—128
Bird-Myths, Studies in—Brahminy Kite	219—221
Bird-Myths, Studies in—Common Hawk-Cuckoo ..	292—296
Gupta Literary History, Further Glhmpses into ..	93—103
Heroic Poetry, Unhistorical Elements in	104—115 ✓
Indian Nursery Rhymes	32— 35
Insect Pests and Some South Indian Beliefs ..	15— 19
Kalahasti and its Inscriptions	<div style="display: inline-block; vertical-align: middle;"> { 20— 24 and 213—218 </div>
Konkani People and Language, The Origin of ..	233—239
Mundakopanishad	<div style="display: inline-block; vertical-align: middle;"> { 75— 78 and 284—291 </div>
Sea-Power in Early South Indian History	256—267 ✓
Seven Dwipas of the Puranas, The	<div style="display: inline-block; vertical-align: middle;"> { 116—124 and 268—283 </div>
Srimat Vyas,—Whether a Contemporary of the Persian Prophet Zoroaster	43— 51
Sringeri Mutt, The	253—255
Suryapraghnapti, A Brief Translation of	201—212
Travancore Kings in Epigraphy	36— 39
Valmiki's Ramayana and the Western Critics ..	240—252
Vijayanagar and Portugal, Early Relations between ..	63— 74

Books, etc., reviewed—

PAGE.

Ananda Ranga Pillai, The Private Diary of (1736-1761)	..	301
Archæological Report, Mysore	..	53
Baghela Dynasty of Rewah	..	222
Bhaskara-Ravivarman's Date, A Note on	..	135
Calendar of the Court Minutes, etc., of the East India Company (1664-1667)	..	137
Corpus Inscription Indicarum	..	297
Crocodile and its Sanctity in South India	..	302
Francis Buchanan, Journal of	..	300
Gupta-Vakataka Controversy, The, New Light on	..	306
Holi, Dolyatra, etc.	..	129
Indian Historical Quarterly,—June 1925	..	55
Kannada Poets mentioned in Inscriptions	..	54
Kerala, History of	..	52
King Mindou, Pageant of	..	223
Life after Death in Oceania and the Malay Archipelago	..	298
Mauryan Invasion of the Tamil Land, The	..	304
Modern Review, January 1926	..	222
Nalodaya, The Author of—, A further note on	..	134
Navayuga	..	299
Parsees, Marriage Ceremony, etc., of	..	299
Satara, The Story of	..	300

The
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Mythic Society

Vol. XVI]

JULY, 1925

[No. 1

THE FIFTEENTH ANNUAL MEETING OF THE
MYTHIC SOCIETY.

Bangalore, 18th July 1925.

DR. R. P. PARANJPYE, M.A. (Cantab.), B.Sc. (Bom.), D.Sc. (Cal.),
in the Chair.

THE Fifteenth Annual Meeting of the Mythic Society was held in the Daly Memorial Hall, on Friday, the 18th July 1925.

Mr. S. Srikantaiya, B.A., B.L., M.R.A.S., General Secretary, read the Annual Report for the year 1924-25.

THE REPORT.

The Committee of the Mythic Society have the honour to present to you this evening the Report of the Society's activities for the year 1924-25.

This is the first occasion that our Annual Meeting is held in the absence of the President of the Mythic Society, Rajasabhabhushana the Rev. A. M. Tabard. Owing to indisposition, he had to leave us, under medical advice, on a short voyage to France. He left Bangalore on the 20th June last and it is hoped he will be able to return to us in a few months' time. When he first fell ill before Christmas, it was feared his ailment might take a very serious turn; he gradually rallied, and a month's stay at Madras considerably improved the condition of his health. During the few months he was with us on his return, there was nothing to concern us very seriously, except that his

speech appeared somewhat defective and his memory rather forgetful. He is very anxious indeed to return to us as soon as he gets well.

Increase in membership, additions to funded capital, enlargement of the library, association with similar Societies elsewhere and the publication of our Journal have been going on apace, and our Hall has been in great demand as in the previous years.

2. MEMBERSHIP :—The strength in our membership has been steadily maintained, and a few life-memberships have also been secured during the year. Your Committee appeal to you, as in the past, to induce more of your friends to join the Society, and to make the Society more widely known.

3. FINANCE :—The Government of His Highness the Maharaja of Mysore have been pleased, during the year, to sanction the continuance of the maintenance and the library grants for a further period of two years, *i.e.*, up to May 1, 1927. We are most grateful to His Highness' Government for this mark of appreciation of the work the Society has been doing.

From the statement of the receipts and expenditure, it will appear that about Rs. 1,800 have been spent over the normal expenditure, during the year. Apart from the several items of expenditure which had necessarily to be incurred to improve the tone and efficiency of the routine work of the Society and the appearance of our beautiful grounds, mention may be made of the magic lantern, a big almirah fitted up in the western room of the Society, the printing of the catalogue, and the printing and publication of a Special June Number of the Quarterly Journal. These add to the greater usefulness of the Society and its premises, the Daly Memorial Hall. Further, they go far to make our Society self-contained for the present and to anticipate the needs of our Society and the requirements of our Library for several years ahead. If, in addition to these items of considerable expenditure,—on the above-mentioned items alone, we have spent nearly Rs. 1,500—we were able to add a sum of Rs. 600 to our funded capital, which now stands at Rs. 9,350, you will agree that our financial condition is, on the whole, satisfactory. So far as our funded capital is concerned, the Committee desire to invite your attention to the fact that at least a sum of Rs. 20,000 will be required to keep the Society efficient and above want, and our present capital, though encouraging, is still far from adequate as a funded capital for a Society like ours. As stated repeatedly in the previous years, the Journal does not pay its way, but no rise in the subscriptions is contemplated. If the members in arrears will kindly remit their dues without delay or at least honour the V.P.'s sent to them, without forgetting about them after receiving the intimation, they will be helping the efficiency and prompt despatch of our Journal. The arrears in subscriptions still amount to Rs. 500 and odd.

4. MEETINGS :—Of the meetings that were held during the year, mention may be made of Major Morshed's Lantern Lecture on the Scaling of Everest and Mr. S. G. Sastri's Lecture on "Wembley, historically considered".

5. JOURNAL :—On behalf of the Society, the Committee offer their thanks to the gentlemen who helped to maintain the high level of excellence of our Journal, by reading papers before the Society, and by their contributions.

We must mention, as a feature of this year, the issue of a Special June Number of our Quarterly, in order to close the First Series of the Journal. Besides giving an account of the origin and growth of the Mythic Society, it contains an index of all the papers and contributions appearing in the first fifteen volumes of the 'Mythic Journal'. The Committee feel that the catalogue of books of our library and the index to our Journal will render our Society of even greater use to the scholar and to the student of history in general.

6. EXCHANGES :—Amongst the new exchanges secured during the year were (a) Welfare, Calcutta, (b) The Mysore Blue Book and Publicity Journal, Bangalore, (c) Yoga Mimamsa, and (d) Calcutta University Publications of the Department "Journal of Letters" bringing our list of exchanges to 72. We have seriously to consider whether and how far we should go on adding to our list of exchanges in the future.

7. LIBRARY :—Large additions were made to the Library during the year to the extent of about 350 volumes and attempts are being made to secure further additions. The Committee tender their thanks to the members and the various societies and individuals who generously presented many valuable books to the Library. The Government of His Highness the Maharaja of Mysore were pleased to transfer a large number of valuable books, about 80 in number, from the Museum Library to ours, under the usual conditions, and our grateful thanks are due, in this behalf, to the Government and to Mr. G. H. Krumbiegal. The Travancore and Kashmere Durbars have also presented to our Library their publications from time to time. We are also indebted to the Oxford University Press for the presentation of a good number of very valuable books. Mr. K. V. Ramaswamiengar added to his old donation another sum of Rs. 100 to purchase books in the name of his uncle Rajakaryaprabhakar Rao Bahadur A. Rangaswamiengar, and we are very grateful to him for it. Our Library occupies a prominent place amongst the largest Oriental Libraries in South India. The number of visitors to the Library and the Free Reading Room (2,600) showed an appreciable increase over last year. The catalogue of books which was announced last year was ready during the year. It is priced very cheap (only 10 annas a copy), so that every member of the Society and even every casual visitor to its Library and Reading Room may possess himself of a copy and benefit by the large and

varied stock of books in our Library. We hope members will hereafter be still more eager than in the past to take an increasing advantage of our excellent collection. We repeat again that ours is not a lending library and that except under special circumstances books are not to be taken out.

8. THE HALL:—It is a matter of great gratification that, however adverse the seasonal conditions, the generally excellent condition of our grounds was maintained. This was due very largely to the Government grants for which we are most grateful.

The first Mysore Co-operative Conference under the Presidency of Mushir-ul-Mulk Mir Humza Hussein, Officiating Dewan, was held in the Daly Memorial Hall. The meetings of the Civil Service Association, Forest Timber Conference, the Civic and Social Service Association and the Extension Lectures of the Mysore University, among others, also took place in these premises.

Mention may also be made of an illustrated lecture on "Wembley", organized by the Department of Industries and another on Tut-ank-amen by Rev. E. S. Edwards, given in the Daly Memorial Hall, which attracted a very large number of interested listeners.

Our Hall will be in greater demand in the future than in the past, because of the electric fans which have been fitted up during the year and of the convenience to be had in giving illustrated lectures. Our lantern projects ordinary slides as well as views and pictures directly from books or photographs.

Three electric ceiling fans were presented to us, with complete fittings, by Mr. M. Srinivasa Murthi, one of our most valued members. The Society most gratefully remembers his spontaneous and generous gift. It is, however, a matter of very great regret that Mr. M. Srinivasa Murthi passed away before the work was finished. The Committee is most grateful to Mrs. M. Srinivasa Murthi for getting this work completed.

One of our Vice-Presidents, Rajatantrapravina Dr. Brajendranath Seal, generously presented to us an oscillating table fan for use in our Society which generous gift we acknowledge with gratitude.

These are signs that interest in our Society is daily increasing and that our members are anxious to see that our Society is provided with the conveniences and comforts of modern life as far as possible, so that work, though in oriental research, may be a pleasure. Your Committee trust that amongst its numerous members in all parts of India, help will be coming forward, in the shape of gifts of books, donations, and life-memberships and new memberships, so that the Mythic Society will be a centre of culture and light and leading not merely here in the South but in all India.

9. VISITORS :—Her Highness the Maharani of Cooch Behar and His Highness the Yuvaraja of Mysore and the Hon'ble Sir Mahomed Habibulla, Member for Education in the Government of India, were pleased to visit the premises during the year and appreciate the fine collection of books in our library.

10. During the year, a large number of members took advantage of our association with the Royal Asiatic Society to become members of that premier institution. With the assistance of our Vice-President, Mr. F. J. Richards, and our Branch Secretary, Mr. C. Hayavadana Rao, details of affiliation with the Royal Anthropological Institute of Great Britain and Ireland are being considered and it may be possible to announce the results soon.

11. The Hon'ble Mr. Barton, our popular British Resident in Mysore, left the station for Hyderabad to take charge of the British Residency there. We are very grateful to him for the kindly interest he was taking in our affairs and for the words of appreciation of our work expressed by him. We offer a most cordial welcome to the Hon'ble Mr. S. E. Pears, our new Resident, who takes a very keen interest in the matters pertaining to the subjects in which the Mythic Society deals. He has been pleased to become an Honorary President of our Society. It is an earnest of his good wishes for the progress of the Mythic Society.

12. We beg to express our gratitude to His Highness the Maharaja of Mysore, His Highness the Yuvaraja of Mysore and His Highness the Maharaja's Government for their generous sympathy with the objects of the Society.

13. At the last Dasara, His Highness the Maharaja was pleased to confer the coveted distinction of Rajātantrapravina on our Vice-President, Dr. Brajendranath Seal, a most distinguished scholar, and the learned Vice-Chancellor of our University. Knighthoods were conferred by His Majesty the King Emperor on Rajamantradhurina A. R. Banerji, Mr. C. P. Ramaswami Iyer of the Government of Madras and Rajasabhabhushana Dewan Bahadur K. P. Puttanna Chetty and Membership of the British Empire on our popular Health Officer in Civil and Military Station, Dr. S. Amritraj. We heartily congratulate these recipients on the highly valued marks of distinction conferred upon them.

14. The Committee cannot complete this Report without a reference to their honoured President, the Founder of the Mythic Society, Rev. Father Tabard. He was not merely the Father of the Mythic Society : he was the Mythic Society itself. For the first time in her history, he has had to leave her, under circumstances beyond control, and the Committee is aware it was only under insistent medical advice he had to leave Bangalore for a time. Even

though his absence is only temporary, still the Committee feel a very great sense of loss in his absence. There is a void created in the affairs of the Society which it is not easy to fill and we pray to God that Father Tabard may be restored to perfect health and that he may be with us again very soon.

Rao Bahadur M. Shama Rao in proposing the adoption of the Report, paid a high and well-deserved tribute to the splendid work of the President, Rajasabhabhushana Rev. A. M. Tabard, M.A., M.B.E., M.R.A.S., for the progress of the Society. The proposition was duly seconded by Mr. V. R. Thyagaraja Iyer, and carried. Mushir-ul-Mulk Mir Humza Hussein then proposed the election of Rev. A. M. Tabard as Life-President of the Society, and in doing so, referred, in high terms of praise, to the services rendered by that revered President to the Society. On being seconded by Prof. Sampat Iyengar, the proposition was carried with acclamation.

Mr. B. Puttaiya proposed and Rev. Vanes seconded the election of Rajakaryaprasakta Rao Bahadur M. Shama Rao as Chairman of the Committee of the Mythic Society for 1925-26. The election of office-bearers for the current year was then proposed and duly seconded and carried. Then the Chairman, amidst great applause, rose and spoke as follows:—

CHAIRMAN'S SPEECH.

LADIES AND GENTLEMEN,

I feel greatly honoured by your asking me to preside on this occasion. My qualifications for the place are almost nil; in the first place, I do not belong to Mysore or the Southern part of India with whose antiquities, manners and customs, folklore, sociology, languages and history, this Mythic Society mainly deals; in the second place, my activities have not been directly concerned with such subjects though I hope that papers on mathematical or scientific acquirements of the great Dravidian races will not be out of place in your well-known Journal. But I have consented to take your Chair to-day as I am generally interested in such subjects as every educated man must be: in particular the sciences of sociology and ethnology, the history of ideas, institutions and even of superstitions have a great fascination for me. It is only on a proper understanding of the past and the present that we can erect a sound structure for the future.

Let me, in the first place, express my deep disappointment, which I am sure is shared by you all, at the absence of your distinguished President-Founder, the Rev. Father Tabard. He has been in his own person practically the Mythic Society itself and I should have liked to meet so great a man. Let me hope that he will soon be restored to Bangalore and to the Mythic Society in renewed vigour to carry on his devoted work for many a long year

and instil his own enthusiasm into other workers. The report that has been read to us gives an interesting and encouraging account of your activities and many another learned society may envy you your invested funds, the support that you have received in such ample measure from the beloved Ruler of the State and his liberal Government, your beautiful house and premises, your large membership and your enthusiastic Secretary. I am very glad to learn that your Journal has received increasing appreciation from all quarters in the world and that requests for complete sets are always being made. I trust that the new series of your Journal which now begins with its sixteenth year will be even more valuable than the first and will provide an organ for the publication of the research work of a large number of savants. I congratulate the Society on its prosperous position at present and hope that it will have an even more prosperous future and that the ambition of its founder to complete its membership of one thousand will be fulfilled in a very short time.

Two years ago your Annual Meeting was presided over by the distinguished Dewan of your State—whom I take leave on your behalf to congratulate on the high honour recently conferred on him—who could speak to you with the authority of one who knows his Mysore through and through. Last year your president was the learned Vice-Chancellor of your University who is known everywhere as the author of many valuable works and who was fully entitled to give you advice on your special activities and who could embrace your various branches in broad generalizations. I cannot follow either of these two gentlemen and I shall, therefore, content myself with a few short remarks which have hardly any advantage of novelty but which may still perhaps bear repetition.

Intellectual research on modern lines is comparatively new in India. We have had our encyclopædic pandits in olden days and many still exist though their number is decreasing under modern conditions. Their ample learning was not always leavened by an historical outlook or comparative view. There was some tendency to disregard the labours of Western savants and there was often too much insistence on the written word, generally the written Sanskrit word. There was small realization of the fact that India, even in olden days, was a part of the wide world, that there was continual action and reaction between India, and even Southern India, on the one hand and countries like Persia, Arabia, Africa, Greece, Rome, Egypt, Malaya, Java, and even far-off China and Japan, on the other, that the languages and institutions of India had relatives and counter-parts elsewhere. With the coming in of English education we are gradually widening our outlook though the encyclopædic character of the old pandits is fast disappearing. Sir Ramakrishna Bhandarkar, the *doyen* of Indian Orientalists

of whom the whole country is proud, is one of the few who combine the characters of Oriental pandits and Western savants. Belonging as he does to the initial period of Indian Universities—he is in fact the first graduate of the Bombay University—he shows in his work what a combination of the West and the East can do in Oriental research. A few minutes' conversation with him shows how his memory is full of texts learned by heart and how he can at a moment's notice bring to bear upon any subject the vast storehouse of his varied knowledge without having to consult lexicons, *vade-me-cums* or encyclopædias. In these days students must be content to use these humbler methods in their work and a well-stocked library like yours will be of the utmost use. But if we must be resigned to the disappearance of such prodigious feats of memory as are quite a common feature of the old learning, we must make sure that we have, as a compensation, a thorough grasp of modern methods.

These methods are essentially historical and comparative and the object can be only one, *viz.*, the stern pursuit of truth, the whole truth and nothing but the truth. While the subjects may be various and may be determined in each individual case by a natural predilection or by accidents of place or opportunities, they must be studied with a single devotion to truth. An ancient country though India is, it is still comparatively young in the ranks of modern science and research. It may have the besetting characteristics of youth which are intense pride and assertiveness. As has been well said, every man is liable to err, even the youngest. The Indian researcher is liable to fall into a nationalist bias as a reaction against his Western *confrère*. Thus while a European scholar is sure that all the mathematical and astronomical knowledge of ancient India was borrowed from Greece, Egypt, Assyria or China and that there is not a single item in the whole of Indian mathematical literature for which Indians deserve credit—not even the decimal system of notation, or the science of trigonometry or the solution of indeterminate equations—the Indian scholar is likely to go to the other extreme and say that Pythagoras, Archimedes or Diophantos borrowed all their knowledge from India. What we all wish to banish from India and from every other country is research with a purpose, research in which the required conclusion is enunciated first and arguments in its support discovered or invented afterwards and facts and arguments opposed to this conclusion either neglected or decried. In subjects which this Mythic Society deals with there need not be any nationalist bias. In such subjects as modern Indian history or economics it may be difficult to get rid of it entirely, though even in them the true student will make a conscious and conscientious effort to free himself from it. We have had but too many instances in

which professors of history or economics have swerved from this correct path of the scholar. But in archæology or sociology such an attitude of mind on the part of the scholar is worse than useless. His one object is to collect data free from any doubt or personal equation. The facts must be absolutely unchallengeable; then he may draw any conclusion that seems to him to be justified. Often these conclusions may be merely tentative or be simply in the nature of provisional hypotheses, but he must always be ready to revise and if necessary to reject these on new facts being discovered. I do not say that this warning is particularly needed for the members of this Society; in fact the few articles in your Journal that I have read show a commendable spirit of judicial impartiality, but it is one that I consider cannot be too strongly imprinted on the minds of the workers.

Along with this warning I shall just remark that there is an occasional tendency to give exaggerated importance to writings of foreign savants even when it is not merited; an occasional remark by one who has not studied the subject thoroughly is made the subject of a paper or is accepted as truth. A researcher has to steer clear of the Scylla of over-zealous nationalism and the Charybdis of excessive self-depreciation.

Your learned Chairman once remarked that a detailed paper on South Indian names and surnames would be very valuable to outsiders. He probably referred to the names of persons. But I would also suggest a detailed study of the names of places. Much can be learnt of the history of a country, especially in a country like ours, where regular historical literature hardly exists, by a scientific study of place names. Such studies have been made in the case of various English counties. A similar study in specially selected parts must give the derivation of the name when known, references to it in literature and especially in old literature, and similar other information. Occasionally the name itself may suggest some historical fact. I shall illustrate this by referring to the name of a hamlet which is a part of my native village on the west coast in Ratnagiri District. The village is situated about a mile from the sea and a tidal creek flows alongside it and the creek can take in small sailing vessels. The hamlet is on the side of a hill and is called *Chāncharali*, which bears a strong resemblance to the Marathi word *Chānche* (pirates). Is it that it used to shelter pirates on the west coast when pursued? We often see in such names alterations of the old names of famous places. Some great and famous towns in ancient times have now descended to the level of small villages and a work on these place names will have great historical interest. A work on these lines may be of great help in the elucidation of many a difficulty and will certainly be of great help to scholars. I am glad to find that several papers on these interesting subjects have been read before your Society.

One of your branches deals with the subject of folklore. In this direction the material is almost inexhaustible. A sub-branch of this subject is the study of superstitions and other popular beliefs. One can call to one's mind many such beliefs for which it is very difficult to give any explanation. Thus in my part of the country we have a rare variety of cocoanuts called *mohācha nāral* whose fruit is much sweeter than that of the ordinary tree. I do not think it is a separate botanical species. In fact every nut from such a tree does not turn out to be of the sweet variety; only some do. It is commonly believed that if in breaking a nut from such a tree you use more than one stroke, the fruit will never turn out sweet. I wonder whether in your part of the country you have such a variety and, if so, whether this belief also exists. To take another illustration, we often see in Marathi poetry the belief that a diamond loses its hardness by contact with a bug or the blood of a bug and the alleged fact is used to enforce the evil effects of bad company. Is there any ground for such a belief and, if there is none, how did such a belief originate?

In some cases there is assumed to be some special merit in a particular part of the body about which there is some special peculiarity. Thus in our part of the country a person born with foot-presentation is supposed to be able to cure lumbago by touching the back of the affected person three times with his left foot at dusk. Such a person is also considered to be peculiarly liable to be killed by lightning. Now, the first belief may be attributed to some fancied property of the leg which came into the world before other parts of the body but how is the second belief to be explained? As I happen to have been born in this way and used to be called in during my childhood by many old people to cure their lumbago and still instinctively receive a shock when I see a flash of lightning as I was in my early days taught to believe in my special vulnerability, I once wrote to Sir James Frazer of the *Golden Bough* about it. He inserted my letter in *Folklore* and the editor gave references to similar beliefs in other countries about the cure of lumbago by persons born with foot-presentation. I have mentioned this not because I want to create a subsidiary occupation for myself while in Bangalore as a healer of lumbago but because I would like to see similar beliefs recorded. They are found common to far distant countries. Does this fact indicate a common origin for these races or a frequent intercommunication between them? Several such questions can be easily raised, but not so easily answered. But the first *desideratum* is an accurate record of all such facts and beliefs. Your Society can make an effective contribution to such a record.

To one who like myself is even more interested in the present and the future than in the past, the question cannot fail to occur: *cui bono*?

What is the good of collecting such facts about the dead past or about beliefs which are obviously baseless or about institutions which are clearly out of date and are fast disappearing? An answer to part of this question is given by Frazer in his "*Psyche's Task*". While he considers that many of these beliefs and superstitions have been useful in instilling respect among men for life, property and women's honour, still his final verdict appears to be against them.

Every reformer who believes in the steady progress of humanity and thinks that every little effort that he can make will have its ultimate effect must understand that his reform activities can be effective only when they are built on solid foundations. Just as an engineer must dig trial pits to find the kind of soil on which he is to build and knows that the nature of the structure is determined by the nature of the soil, so has a reformer to know intimately the history, the psychology, the beliefs and the existing institutions of his people. If he proceeds merely on theoretical *a priori* reasoning he is likely to go wrong. The deep-seated beliefs which form the integral part—often sub-conscious—of their mental nature cannot be rudely altered. *Natura non agit per saltum* is a maxim that is true not only in the realm of physical sciences but in that of social sciences also. In the infinite course of time this fundamental groundwork of humanity is also alterable; but it will take ages as long as those required to bring about the evolution of the ape-like being into a *homo sapiens*. But for this one must have full confidence begotten of knowledge. It is because the Mythic Society is trying to do its part in the acquisition of this necessary knowledge that I wish it every kind of success in future.

THE MYTHIC SOCIETY, BANGALORE.

Statement of Accounts from July 1, 1924 to June 30th, 1925.

RECEIPTS	AMOUNT	EXPENDITURE	AMOUNT
	Rs. A. P.		Rs. A. P.
1. Resident Members' Subscription ...	708 0 0	1. Establishment—	
2. Mofussil Members' Subscription ...	765 4 11	Pay of the Staff ...	756 0 0
3. Maintenance Grant ...	1,800 0 0	Garden Charges ...	74 13 0
4. Library ...	300 0 0	Lighting ...	141 6 0
5. Recoveries from Peon ...	122 0 0	Water Charges ...	7 12 0
6. " " Mali ...	10 0 0	Typewriter ...	200 0 0
7. Sale of Journals, etc. ...	123 12 6	Bicycle ...	85 0 0
8. Interest earned ...	526 14 0	Livery ...	13 0 0
9. Life-Membership Donation ...	305 0 0	Painting Board, etc. ...	38 0 0
10. Mr. K. V. Ramaswami Iyengar's Donation ...	100 0 0	2. Journal—	
11. Miscellaneous Receipts ...	65 1 6	Printing ...	1,650 0 0
		Postage ...	288 6 6
		3. Library—	
		Books ...	33 13 6
		Furniture to keep books ...	616 4 0
		Magic Lantern ...	300 0 0
		Subscription to News-papers ...	83 6 0
		4. Reserve Fund ...	600 0 0
		5. Miscellaneous—	
		Bonus for preparing Catalogue ...	125 0 0
		Book-binding ...	58 2 0
		Advance to Mali ...	20 0 0
		Wire-netting ...	30 0 0
		Miscellaneous including Stationery ...	181 13 0
Total ...	4,826 0 11	Total ...	5,302 12 0
Opening Balance ...	974 1 6	*Closing Balance ...	497 6 5
GRAND TOTAL ...	5,800 2 5	GRAND TOTAL ...	5,800 2 5

* Details for Closing Balance :

	Rs. A. P.
1. In the Bank ...	453 6 0
2. Cheque with the General Secretary ...	30 0 0
3. With the Branch Secretaries ...	9 6 2
4. With the Curator ...	4 10 3
TOTAL ...	497 6 5

S. SRIKANTAIA,
General Secretary and Treasurer

THE BEETLE MYTHS AND FOLKTALES.

BY K. RAMAVARMA RAJA, ESQ., B.A.

SEVERAL species of beetles were considered and treated as very sacred in ancient Egypt where they were used by 'makers of scarabs' for representing certain principles or attributes associated with some of the most sacred objects of worship, offerings and use. Thus, the scarab was used to represent the Egyptian Creator God, Ptah of Memphis, as 'a self-produced and self-reliant Being'. The scarab figure is found carved on the Egyptian royal tombs as an emblem of 'the morning sun waking to new life', and also as a symbol of 'the renewed life of man after his earthly death'. An image of the scarab is sometimes found embedded or enclosed in the Egyptian mummy as 'the artificial heart inserted in the place formerly occupied by the real fleshy organ' which was the seat of life, but had to be removed as it was liable to decay and to be replaced by an artificial one of the beetle shape which was supposed to have given new life to the mummy containing it. The beetle model was adopted in making the scarab amulets which seem to have been in general use among the people of ancient Egypt. Thus it will be seen that the scarab represented the life principle and the several attributes of vitality (including production, preservation and renewal of life) in the ancient Egyptian mythology.

The winged beetles are seen to deposit their worm-like larvæ in mud-cells made or holes drilled somewhere in our houses and to visit them there every now and then during their transformation till they become full fledged like their parents and desert the cells. The Indian naturalists of old, or to be more precise, our Puranic philosophers, have explained this curious phenomenon or process as an instance of transmutation of species falling under two widely different classes—the worms and the insects—under the influence of persistent and intense feeling of hatred and dread which the caterpillars in captivity are said to bear towards their captor insects, and have formulated a general theory that, under the influence of a strong emotion—love, hatred or fear—its subject will be bodily changed or transformed into its object, and so any creature under its influence will become what it loves, hates or dreads so much and so strongly (*Bhagavata Purana* XI—9—22 and 23). And by this pet theory they have accounted for how even the inveterate enemies of the God, Vishnu, such as Hiranyakasipu, Ravana, Sisupala, etc., all attained the blissful unity with Him after meeting death at His hands (*Bhag. P.* VII—1—27, and VII—10—38). Here the winged parent or the beetle

hatching and watching, or nursing and visiting, is supposed to give a new life to 'the worm in captivity' or caterpillar.

This mythical life-history of the beetles is reflected in our folklore also. For there is a belief current in our family circles, especially among the womenfolk (in these parts at any rate), that a beetle constructing a mud-cell or boring a hole for its larva in any part of our houses and paying frequent visits to it is a sure premonitory sign of pregnancy and augurs a new birth in the household in the near future. Their tenacity of life is illustrated by other curious facts or phenomena observed, for instance, when the thick luscious pulp of some special varieties of ripe mango-fruits is cut and removed, out come into the light from within the exposed kernels small beetles which had burrowed their way thereinto and taken lodgings there unnoticed, unexpected and unsuspected. When and how they had got into the kernel and how they managed to live there, enveloped as they are in a thick cover all round and thus completely shut from the outside atmosphere so long, are inexplicable mysteries to the common people. Yet another instance of the beetles exhibiting their extraordinary vitality is referred to very often in our Indian epic and classical literature. It relates to their rambles among the flowers. The lotus buds open at sunrise, emit sweet odour far and wide and all around and thereby notice the beetles which visit them and linger there under its delightful influence and so are caught at last unawares and locked up within them at sunset when the flowers close containing and detaining the unwary insects within their folds as slaves or prisoners, who, however, will be set free again when the flowers reopen at sunrise next morning. Our Puranic sages have drawn a moral from this romantic tale. It is that a man by his exclusive and passionate attachment to anything for a very long time will, at last, become its slave and can never sever his connection therewith (*Bhag. P. XI—8—9*).

Now the question is how far the Indian myths and folktales of the beetles will go to explain and unravel the Egyptian scarab mysteries. It is not at all suggested that the Egyptian practices or observances owed their origin to the curious notions and beliefs held in ancient India. Yet it is quite possible that the same or similar notions and beliefs might have been current in ancient Egypt also out of which could very well have arisen the scarab representations of the vital force, immortality, renewed life or such other conceptions and the observances resulting therefrom.

INSECT PESTS AND SOME SOUTH INDIAN BELIEFS.

By S. T. MOSES, ESQ., M.A., F.Z.S., F.R.A.I.

WHAT with illiteracy coupled with superstition the average Indian ryot is hopelessly conservative and clings to his traditional ways with an amazing persistence. His guide at all times of distress is the astrologer. Even in his unequal struggle against pests which destroy his crops, stored products or cattle, he looks up to him for help and guidance. The 'Kanisan,' however well-versed in the ancient lore, is certainly not an agricultural expert in the accepted sense of the term but the confidence placed in him by our ordinary agriculturists is more ample than that in our modern experts. Old ryots, perhaps in accordance with that trait of human nature which looks upon the hoary past as 'golden', complain bitterly about the recent increase in the number of pests. Particularly in Malabar where the golden age of Mahabali (or Parasurama according to another tradition) is kept green in the memory of the people by a popular annual festival the complaint is rife. The increase may be a fact since by our civilized ways resulting in the reclamation of jungles, the destruction of insect-enemies and the accidental emigration of insects, etc., the natural balance of life may have been upset. Howsoever this may be, ancient literature affords plenty of evidence, to show that pests were recognized as 'evils'. Of the three kinds of troubles (*Thapathriyam*) man is heir to, the one caused by creatures (*Anmeegam*) is of equal importance to those attributed to God or the elements. In the list of things inflicting injuries on a country (*Nattukuttam*) which numbers seven according to one account and eight according to another, insect pests especially locusts (*Vittil*), are prominent. Locusts are notorious scourges which 'devour the land' and lay it 'clean bare'. Muhammadans believe that the curious markings of the locusts are really an Arabic inscription labelling them 'the scourge of God'. The words on translation run thus:—"We are the scourge of God. Each of us lays ninety-nine eggs. If we laid the hundredth egg we should destroy the world." It is recorded that at Poona a cloud of locusts, the swarming columns of which extended 500 miles ravaged the Mahratta country (page 207, *Cuvier's Natural History*, 1832, Vol. II). The havoc caused by caterpillars is also well-known. The description given in the Bible of a drought where 'that which the palmerworm hath left, the locust hath eaten and that which the locust hath left the cankerworm hath eaten, and that which the cankerworm hath left, hath the caterpillar eaten' (Joel i: 4) may equally apply to similar occurrences in our country. All crops including our staple food ones,

pay a heavy toll to insect pests. The Tamils recognize many kinds, e.g., 'Kamblipuchi' and 'Navapuchi' in paddy; 'Surulpuchi' and 'Verpuchi' in tobacco, etc. A reference to these pests is found in a Tamil nursery rhyme usually sung when children play 'at gardening'. It says "Where can one, obtain 'Pongamia' or tamarind leaves—They are plentiful in Ponnappan's garden—But there are also plenty of puchis—For them I have in my hands an insecticide, etc." Vemana, the Telugu poet, in illustrating the maxim 'association with the wicked brings evil unto the good', says, 'the worm on the leaf spoils the plant and the fungus at the root kills the tree'. The caterpillars of the ominous Death's head hawk-moth, so called from the marking of a skull on its body, affect gingelly which according to a Telugu proverb suffers from 100 diseases. In Mysore the attacks of insects on fruits are so common as to give rise to a special variety of mango the 'Gungemavu' which is characterized by the presence of a bee in the stone. On the West Coast the land of cocoanut palms, people are painfully aware of the depredations of the insect pests, judging from the names in common usage. 'Chelli' or 'Chellu' is the beetle of cocoanut trees responsible for the condition known as 'Pechotta' where the flower is blighted or 'Poythala' where the top of the cocoanut tree is dried and bends or 'Poythalachi' when the palm dies. 'Chellu' also attacks the shoots and leaves of cocoanut palms. 'Pulukuthu' or 'Pulukedu' is the name given to the damage caused to the trees by worms, caterpillars, etc., which are also called 'Paduthara'. In the case of paddy the chief enemy is the 'Chazhi' which is recognized to be of three kinds Karinchazhi, Pachachazhi and Vellachazhi. Vellachazhi is the commonest and feeding on the milk of corn ears prevents them from filling. These blighted and empty grains usually known as 'Pottu' are hence called 'Chavi'.

The depredations of insects on stored products are also well-known. A Tamil proverb expresses the terrible damaging capabilities of even a single weevil by saying "for 1,000 grains of paddy one 'Santhupuchi' is enough". People are also familiar with the ravages of white ants which rank next to locusts in their destructive propensities. In 'Vettiverkai' a moral treatise by the Tamil poet Athivira Rama Pandian, it is said that 'termites (*chithalai*) make no difference between a rich man's property and that of one who selfishly eats and makes merry'. According to the 'Manaiadi Sastras' or 'Silpa Sastras' it is unlucky if ants should be disturbed or termites scattered just when the owner and the architect are surveying the land. It is also inauspicious if they should sight winged termites buzzing out of the ground.

The usual belief regarding the origin of these insects is seen from their being classified as 'Swadegam' products of heat and moisture. These

insects which usually are the farmer's curse though some of them are useful enough to be styled the farmer's joy, are regarded as a curse specially created to torment or otherwise be a nuisance to man and other animals. The appearance of pests and the consequent blights are usually assigned to the displeasure of God. "The Lord sends his great army of locusts, caterpillars and palmerworms to devour" to chastise the people. The ancient Greeks attributed similar disasters to the anger of the gods and accepted them as inevitable to life while the Romans who ascribed them to the unwelcome activities of a particular goddess, offered sacrifices to distract her away from their crops. In Bengal, according to 'Dharma Puja Vidhana', Jharajhari, Parihara, Sauhajangha and Pandasura are among the godlings who preside as deities over agricultural operations. Pandasura is the godling of the sugar-cane field (Mitra in *Man in India*, Vol. III, Nos. 1 & 2, page 54). On the Malabar coast there is a rural deity named Mallan, set up on the ridges of rice fields in the 'Mallan Gottam'. This godling should be propitiated by the sacrifice of a fowl before sowing operations commence. Otherwise disasters are bound to ensue.

The Badagas, who are mortally afraid of the Kurumbas whose great gift in their opinion is their wizardry, solemnly believe that their fruits are blighted and crops damaged all through the sorcery of the wicked Kurumbas.

As Pliny did of old, our people mention many other causes such as the inclemency of the weather, moon, the stars, etc. The earcockle which affects barley and wheat in the Punjab though really due to a Nematode worm, is attributed by the ryots there to bad winds and untimely rains. In South India the wireworm 'Usipulu' is said to be caused by light drizzling the 'Usi thuthal' on the fields. The scarlet velvetmite known as 'Indragopam' the anger of Indra or 'Thambala puchi' the spittle insect—it is also supposed to originate from the betel spittle of Indra—is said to be showered along with rain. In Telugu it is known as the rain insect. Grasshoppers are also called 'Mazhaikili' rain-parrots from the belief it rains grasshoppers. The 'Kamblipuchi' or woolly bears, found, e.g., on groundnut, are said to descend with the rain. The belief is firmly rooted by the coincidence of the swarming season with the setting in of the monsoons.

The appearance of pests in incredible numbers is said to be due to the non-observance of the rules laid down from time immemorial regarding days for sowing, auspicious or otherwise, etc. The astrologer, the Kanisan of the West Coast, is the final authority. He by referring to his 'Granthams' or by means of a diagram in the form of a snake 'Panichakram', determines the days for sowing. Some periods are taboo and are known as 'Idachazhi', 'Kuttachazhi' and 'Pulukarnam', because if sowing is persisted on these

inauspicious times the crops would assuredly fall a prey to Chazhi and Pulu of all kinds, e.g., Ola, Kuda, Kambli, Ari, Thekan, Thoppai, etc.

In the matter of cutting wood some days are auspicious and some not. If done on the disallowed days the timber or bamboos would be attacked by insects. The Silpasastra prescribes the five days following *panchami* as the best for cutting wood. Even if the wood be of a useless kind, e.g., Velamaram (*Acacia*), it attains immunity from insects if cut on such days. Bamboos must be cut at certain phases of the moon or else they would be attacked by beetles, e.g., the typographer. This rule is apparently based on scientific grounds, long since forgotten, connected obviously with the rise and fall of the sap. *Amavasya* or New Moon day is the best for cutting timber, for the food of the Gods who come down to the earth that day enters the tree and renders the wood insect-proof. If a ryot should dream of fire he is believed to be forewarned of the impending ruin of his crops by insects. Another belief is that betel-vine gardens will be overrun with pests if a Brahmin or Komatti should enter them. Regarding other pests, e.g., flies which render life here intolerable, it may be mentioned that people believe them to originate from the 'Ichamaram', a jungle tree in Malabar the capsules of which when burst are said to discharge flies.

As regards the destruction of insect pests it may be mentioned Adam who was given "dominion over all animals, etc." before his exile from Eden, had no power over insects which attacked his plants cultivated after his downfall. Our people who usually refrain from taking life unnecessarily, merely collect the pests and dump them elsewhere and thus spread the disaffection. It is perhaps because cultivation involves the killing of insects that it is forbidden to Brahmins. Many time-honoured methods employed against pests remind one of the days when in the land of our experts plant diseases were believed to be cured by a solemn procession on St. Saturnin's day. In some districts, e.g., South Kanara, where the enlightened ryots are shaking themselves free from the trammels of hidebound tradition, simple and sensible methods are used, e.g., ploughing the rice fields twice and letting in the rays of the sun to parch the ground and kill the grubs, etc. In the great cotton belt of South India the popular belief is that cotton bolls are infested with insects because of excessive rains. The ryots take things easy, trusting to Providence or Nature. Oftentimes Nature does afford a remedy. With the clearing of the weather accompanied by heat and sunshine the insects appear to die of inanition. At other times the outbreaks of insects are miraculously stopped as if by magic, as Nature's balance of life is regained by the welcome activities of insect policemen who are the enemies of our pests.

On the Malabar coast the help of Kaniyan's magic is sought to drive the 'chazhis' from the fields. He utters some *mantras* and places a piece of *kadjan* leaf with the particular *mantram* inscribed, on a twig in the middle of the afflicted field and this is believed to be effective. In some places on the West Coast, for keeping the insects off the field by magic, washermen are paid fees in corn. Ashes from bonfires made at Holi, Kartigai, etc., festivals are believed to prevent bugs and white ants swarming. In some places in South India, e.g., Trichinopoly and Salem districts, charred and half-burnt sticks are picked up from these bonfires and planted in fields and kitchen-gardens in the belief that they keep off the worms. In Coorg a row of half-burnt bamboos over six feet in height are planted in fields. Besides being insecticidal they serve also as a 'Vila Raksha' the scarecrow placed in the fields to avert evil eye. The method of dusting ashes over all affected plants is universally followed. Salt holds a high place in insecticidal pharmacopœia. In planting cocoanuts while putting ashes down with the seedlings a handful of salt is added to keep off termites. Against termite ravages in sugarcane plantations, water is used wherein bundles of stems of *kodicalli* and bags of salt have been immersed.

In Kurnool and Cuddapah the common belief is that worms cannot stand the spraying of menstrual fluid however dilute. The clothes of women in that state are washed in water and this liquid is used for spraying purposes.

In paddy fields on the West Coast 'Chazhikol' a stick daubed with a drug is used to ward off the insects. A crude net 'Chazhi vala'—it is not a net, being made up of an oblong piece of cloth spread out flat with one stick with handle at each end—is also used to catch these insects.

The Badagas when worried by pests request the Kurumbas to do the needful. He goes round the afflicted field on all fours lowing like a calf to drive the insects away.

Fire is recognized as the best agent for destroying the pests. They are soon destroyed hence the Malayalam proverb '*Agniyil salatham* (locusts, etc.) *ennapole*.'

KALAHASTI AND ITS INSCRIPTIONS.

By V. VENKATASUBBA AYYAR, ESQ., B.A.

PART I.—The Zamindari.

KALAHASTI is a small Zamindari in the Chittoor District and the chief town Kalahasti is a railway station on the Renigunta-Gudur section of the Southern Mahratta Railway. The chief claim of the Zamindari for remembrance is that it was from its Polygar, Damarla Venkatadri Naidu that Mr. Day in 1639 obtained the grant of Chennakuppam, *i.e.*, Madras after obtaining a *Sannad* from the Raja of Chandragiri, the then immediate lord. Curiously enough, part of the agreement with the Polygar was that the new settlement should be called Chennapatnam after his father Chennappa Naidu.

The Zamindari included portions of Chittoor, Nellore, Cuddapah and Chingleput districts. But the chief town Kalahasti, the residence of the Zamindar, lies almost in a corner of the Chittoor district. The town Kalahasti itself is reputed for its temple which, on account of its proximity to Tirupati, has acquired equal reputation along with the temple on the "Seven Hills" throughout the length and breadth of India. The lithic records found in this temple reveal to a great extent the state of the country around. At the present stage of our historical knowledge it is not possible to give an exhaustive account of the Zamindari and the temple, because all the inscriptions which are among the primary sources for the reconstruction of history in the Zamindari have not yet been secured and also because this Zamindari along with others in the Chittoor District is so peculiarly situated in mountainous and in those times remote portions of the Eastern ghats, that its chiefs led independent lives without actively identifying themselves in the wars of their overlords. Petty chiefs holding a few villages with a number of military retainers to safeguard their interests came into prominence in the Chittoor district about the middle of the sixteenth century but very little is known about them prior to this period. This is perhaps to be explained by the fact that the Vijayanagara rulers were all-powerful till the gradual tottering and the final collapse of their power in the battle of Talikota in 1565 A.D. which gave a direct impetus to those who held service under them to assume a position of independence with the help of a few retainers by their side.

Such a chief appears to be the Kalahasti Polygar, though the present Raja claims that his ancestors got the territory by a grant from Pratapa Rudra of Orangal in the thirteenth century, who, it appears, created one Damarla Javi Raya, as the first chief of Kalahasti. Whatever may be the truth, it seems

very probable that the Kalahasti Polygars were originally feudal chiefs under the control of the Raja of Chandragiri. The fortunes of the Kalahasti estate were closely linked with those of Chandragiri. Along with Chandragiri, Kalahasti became independent on the destruction of the Vijayanagara Kingdom at Talikota in 1565. About the middle of the following century, it came under the dominion of the Muhammadan kings of Golkonda and on the fall of the Golkonda and Bijapur kingdoms, it finally passed into the hands of the Nizam and his deputy, the Nawab of the Karnatic, subject, of course, to the nominal control of the Emperor of Delhi.

The Kalahasti Polygars held their estate on a military tenure when they came under the influence of the Nawab of the Karnatic and they were bound to appear in field with 5000 armed men whenever their services were required. The maintenance of a large number of military retainers to help their immediate lord gave a direct impetus to these chiefs, and they became lawless, frequently warring with neighbouring chiefs and increasing their territory at the cost of their neighbours. The first *Sannad* to the Polygar of Kalahasti was granted by the Emperor Aurangazeb. Below is a copy of communication from Aurangazeb to Raja Damarla Akkap Naidu, the Raja of Kalahasti, promising him reward for his fidelity. The letter is dated A.D. 1695 and it runs: "In accordance with the letter addressed by Our Prime Minister Asadakhn by Our command, you presented a petition beseeching Us to bestow more dignities and honours on you for which you had taken great trouble. We, therefore, besides the Jahgir and dignity already enjoyed by you, have now conferred upon you the honours of 'Nowbuth', title 'Bahadur' and 'Marathub', the trimmed palanquin and 'Munsab-i-Hufth Hazari' 'Munsubdare'.

The British assumed the right of collecting taxes in the Zamindari by a treaty of 1792. In the war with Tippu Sultan, the English requisitioned the help of Damarla and for his timely help they presented Damarla with a *Khillat*. The neighbouring Zamindari was at constant feud with Kalahasti and the British seeing the disturbed state of the estate, disbanded the armed retainers. It was also provided by the treaty made in 1792 between the British Government and the Nabab Mahomed Ali that the Zamindar's connection with His Highness should cease and that the Zamindar should exclusively be subject to the British Government. The Zamindar had under him 5077 men costing 52,150 Star Pagodas. Edward Lord Clive disbanded these men thus making the Zamindar free from the obligation of furnishing troops and military stores for the service of the British Government. Though the Kalahasti chief transferred his allegiance to the British in A.D. 1792, his military force was not effectively disbanded till 1802 A.D. when he was made a Zamindar. The title "Raja" was conferred on him in A.D. 1875.

The history of this Zamindari before the sixteenth century is clouded in obscurity. How the present family got the estate and the rôle they played in history before the sixteenth century are matters about which our knowledge is yet very meagre.

However from stone inscriptions of eleventh, twelfth and thirteenth centuries collected at Kalahasti, we gather that the estate was under the Cholas, but no evidence is available to show the existence of any powerful chiefs there. Kulottunga I planted military colonies by allotting territories to his officers who occupied settlements at the head of the forces at their command. Since Kalahasti occupied an advantageous position some military colony might have been planted there to check hostile invasions and to introduce order in the land. About the middle of the seventeenth century this Zamindari was at the height of its power and its territory extended as far as Madras and Conjeevaram on the east and Wandiwash on the south.

PART II.—The Town and its Temple.

As a place of pilgrimage, the town Kalahasti comes next to Tirupati. People that come from distant parts of the country to offer their prayers to the God on the "Seven Hills", never fail to visit this small town on the bank of the river Swarnamukhi. The chief attraction of the town is, of course, the temple and its proximity to Tirupati only facilitates the journey of the pilgrim. Besides the temple, the town can boast of palaces and flower-gardens all round, which unfortunately are not in the best condition now as they used to be under the Chola and Vijayanagara rulers. The present Raja is reduced from his position of a free lord over thousands of military retainers to the position of a minor Zamindar. The charm that a town would present as the residence of the ruler is now nearly lost; nevertheless, traces now remain here and there to remind the inquisitive traveller of its past grandeur.

The town is picturesquely situated at the extremity of the Nagari hills between two steep hills, one of which in the north contains the temple of the Goddess Durga, and the other, in the south, the temple of Kannappeswara, one of the sixty-three devotees of Siva. Kannappa, an ordinary hunter by caste, is said to have given one of his eyes to the god, who conferred on him the name Kannappa for sacrificing one of his eyes and for his readiness to part with the other too to the god who, to test the devotion of his disciple, made his eyes bleed. To the east of the town on a small hillock is the temple of Subrahmanya. This is a recent structure wholly constructed of brick and chunam. In the centre of the town is a small Vishnu temple dedicated to Varadaraja Perumal which is wholly devoid of inscriptions and apparently modern. About half a mile to the south of the Kalahasteswara temple there is another Siva temple in a deserted condition.

The oldest and by far the most interesting of the temples in the town is, of course, the Kalahasteswara temple which is situated just on the right bank of the river Swarnamukhi. The reverence shown to this temple is primarily because it contains the famous Vayu-*linga*, one of the five famous *lingas* of Southern India, the others being the water-*linga* of Jumbukeswaram, the fire-*linga* at Tiruvannamalai, the *Akasa-linga* at Chidambaram, and the earth-*linga* at Conjeevaram. The existence of Vayu, who, according to the local legend, worshipped the *linga* here, is even now shown to the pilgrims by the flickering of one of the three lamps kept in the *Sanctum Sanctorum*.

This Kalahasteswara was worshipped both by Vayu and Kannappa. It was in this town that the devotion of Kannappa was tested. In the roll of *bhaktas* there is none equal to Saint Kannappa in the intensity and depth of his devotion to God. He sang no hymns but his selfless love and fervid devotion won him the grace of God. The *lingam* in the temple is not of the ordinary kind. According to the legend, the God in this place gave salvation to a spider, an elephant, and a snake. These three were devoted to Him, but they were cursed to be born on the earth for their thoughtless action. The three devotees wanted to be ever with the God and so it is that in the *linga* one now finds emblems of all of them. A black spot in the *lingam* is shown to the pilgrims as the eye that Kannappa gave to the God when he saw that His eye was bleeding.

The temple was of modest dimensions before, but thanks to the efforts of Nattukottai Chetties, it is completely renovated and made very spacious at a cost of some lakhs of rupees. It is to be regretted that in their zeal for renovating the temple, the Chetties have completely ignored the original architecture of the temple. Some of the stones that are beautifully carved— from an architectural point of view—lie scattered in the vicinity of the temple. Architecture that often helps epigraphy in tracing the history of a place is now completely absent here. It would be a master-stroke of policy if these Chetties, in their renovations, could also keep an eye on the architectural beauties of temples.

Far more interesting than the present state of the temple is its past condition. It will be a useful study to trace how this temple fared under successive monarchs, whether the sanctity attached to it is of recent growth or an ancient one and whether it continued to attract donations from pilgrims even in ancient times as it does now. For a study of all these questions, our information is mainly based on the inscriptions found on the walls of the temple.

This temple was sung by the Tevaram authors. It is also known as Dakshina Kailasam, Tirukkalatti, Sri Kalahasti, Kannappapuram and

Mummudicholapuram. In the time of Rajaraja I (A.D. 985-1016) it came to be called Mummudicholapuram which name it retained to the middle of the sixteenth century. The name Sri Kalahasti itself can be derived from *Sri*, the spider, *Kalan*, the snake and *hasti*, the elephant—to all of whom Kalahasteswara gave salvation in this town. This Tirukkalatti or Mummudicholapuram was a town in Arrur-nadu which was a division of Tiruvenkata-Kottam, a district of Jayangondachola-mandalam.

The first question that strikes a man when he enters a big temple of some antiquity is, who could have built it and how many years did it take for its construction. That such a big temple as at Kalahasti could have been, in ancient times, built only by monarchs is firmly laid in the popular mind, because private persons could not command the resources for such an undertaking. Inscriptions do not give us anything about the builders of the temple of Kalahasteswara. The earliest inscriptions found on the walls of the central shrine belong to the reigns of Rajaraja the Great (A.D. 985-1016) and his son Rajendra Chola (A.D. 1016-1043). It is just possible that the temple existed in some form or other even before that time, for we find the Tevaram authors singing the glories of this God. The *prakara* walls seem to be later additions especially as we find here no inscriptions of the two early Chola kings. On the second *prakara* walls, we find inscriptions of Kulottunga III and it seems very likely that these walls came into existence towards the close of the eleventh century or the beginning of the twelfth century. The third *prakara* and *gopurams* must be attributed to the Vijayanagara times. It is thus clear that from about the tenth century to about the close of the sixteenth century, this temple had been basking in the sunshine of royal favour.

About Manikantésvara temple that lies close to the Kalahasteswara temple, we have some information. This temple was called in ancient times Tirumāṇikka Gaṅgai-uḍaya-Nāyanār temple and it was built in the reign of Tribhuvanachakravartin Vira Rājēndrachōla-Dēva, perhaps Kulōttuṅga III (A.D. 1178 to 1216) by Kōṇuḷaṇ Amudāḷvāṇ Maṅgai Nāyakaṇ Maḷava Rāyaṇ of Peruntaṇḍalam along with another person. These two people built also the *mandapam* in the temple and a flight of steps. An inscription of Rājārāja I dated in his twenty-fourth year refers to the God in this temple as Manikkaṅgai Mādēvar. We may therefore conclude that the shrine was in existence even in the time of Rājārāja I and that the present building came into existence in the reign of Kulōttuṅga III (A.D. 1178-1216).

(To be continued.)

THE AGE OF THE FIRST MANU (*Svâyambhuva*) OR THE ANTIQUITY OF THE HERETICAL (*Pákhanda*) SCHOOLS.

BY K. RAMAVARMA RAJA, ESQ., B.A.

I do not claim to have made an exhaustive study of the subjects comprised in the above caption, but shall be content to note below what I have gathered in the course of my reading—which again, cannot be claimed to be very deep and critical—of the “*Bhagavata Purana*” during leisure and prayer hours. The age of the *Puranas* is still an open or unsettled question. A wide range—B.C. 400—400 A.D.—has been suggested for their birth and subsequent developments by revisions; and, of the five topics dealt with in them, *viz.*, “primary creation, secondary creation, genealogies of gods and patriarchs, reigns of Manus and the histories of the old dynasties of kings,” the last alone is regarded as of any historical value. (V. Smith, “*Early History*,” Chapter I, pages 11, 21—23.) But I have selected an earlier portion for a study in this paper, and its value or lesson may be left to the unprejudiced and patient reader for himself to judge and appreciate.

The body of Brahmā, the Creator, is said to have given birth, by division, to a twin pair, *Manu*, *Svâyambhuva* and his wife, *Satarūpa*. These had two sons:—(1) *Priyavrata* and (2) *Uttānapāda*. *Dhruva*, who, by his severe penance (*tapas*), at the age of five, pleased the God Vishnu, and was raised to the highest heaven, and his brother, *Uttama*, who was killed by the Yakshas while hunting, were born of the latter. *Dhruva*’s eldest son, *Ulkala*, was, by nature, unworldly, detached from all temporal concerns, indifferent and equally disposed to all, and by his full and true self-realization (*ātma-bōdha*), appeared and behaved like a senseless man. So, his younger brother ‘*Vatsara*’ was installed as the king of the realm, and his line of descendants continued to rule the land in the proper or traditional way, until it came down to *Vena*, who was a tyrant and oppressor, and was accordingly put to death by the enraged Brahman priests (Rishis). Then followed a short period of interregnum and anarchy, during which, the Rishis, bent upon finding a suitable successor to perpetuate the extinct line, turned to the corpse of the wicked king they killed, which had been preserved by his mourning mother, and extracted from its thighs ‘a black dwarf’ with short limbs, flat nose, red eyes, and brown or copper-coloured hair who was called “*Nishāda*” and afterwards became the progenitor of the hill-and-jungle tribes. They were not satisfied with this issue, and continued their labours on the dead

body to produce a better and proper one, and succeeded at last, in extracting a pair of twins, out of its arms. It may be remarked here, parenthetically, that the process of extraction adopted in this case, was, evidently, the same as that employed in the production of fire out of two wooden pieces, which was well known to the sacrificial priests.

Of the twin pair, one was male and the other female. They were called 'Prithu' and 'Archis' and recognized as the *avatars* of Vishnu and Lakshmi respectively. So they were united in wedlock. Prithu was installed as the next ruler and was regarded as the first king and therefore known as "*Ādirāja*", in whose reign the earth was levelled and made arable and productive; the prime necessities of civic life such as villages, bazaars, markets, towns, cities, streets, roads, etc., were first provided; law was made and administered justly and impartially for protection of person and property and the welfare of the subjects; and taxation or collection was never heavy and excessive, nor disbursements, short of requirements. And, in short, he never wavered, but was always alert, in discharge of his royal duties, and in doing justice to all; and the people were consequently well-contented and happy in his reign, which, therefore, was an ever-memorable epoch. Then was started at *Brahmācārta*, his grand sacrifice of *Aśvamedha* (horse sacrifice) which was a special royal privilege, and which he had intended and arranged to perform one hundred times. To this grand ceremony, all the major and minor Gods, from the highest (Vishnu, the Lord of 'Sacrifice) to the lowest, and all the Rishis were invited, and they were all present in person with their *rétinue* to honour the occasion, and all went on well until the last one (the hundredth) was taken up, when Indra, who alone is entitled to the title of "*Satakratu*", felt uneasy in mind and became jealous of this earthly king's great performance, and began to devise effective methods of obstruction. He assumed various guises and attempted to carry away the sacrificial animal unseen, and every time he made the attempt, he was detected, his object defeated, and the animal recovered by the king's son *Vijitāsva* guided by the priest *Atri*. His (Indra's) adventures in these various masks—which, by the way, were the marks of sin or evil (*Pākhandas* "*Pāpa-Khandas*" where "*Khandās*" means "signs" or "marks" of identification")—had this evil effect, *viz.*, that simple and ignorant men beguiled and converted by these appealing pseudo-ethical teachings, adopted these marks and became divided into the several heretical sects—the naked Jains, the red-(ochre)-robed Buddhists, the skull-bearing Kāpālikas, etc., etc. Enraged at his cowardly, unprovoked and obstructive tactics, King Prithu took up arms to kill Indra, but was dissuaded therefrom (the destruction of any life other than that of the animal being forbidden during the sacrifice) by the sacrificial priests who, in their turn,

undertook to summon him by the appropriate *Mantras*, and to burn him to death in the sacrificial fire. At this juncture, Brahmā, the Creator, interposed and interrupted them in their hasty procedure. He earnestly pleaded for reconciliation with Indra, whose masked raids and false teachings had already laid the foundation of the various heretical schools, and might give rise to more on his being subjected to further provocation and persecution; and also for the stoppage of the sacrifice before conclusion to check the further growth and spread of these heresies. Thus, mutual reconciliation was effected, and the sacrifice concluded at that stage. Then followed the philosophical address of "*Sri Vishnu Bhagavan*" who also pleaded for mercy and pardon for the offending 'Lord of the Devas' which were accordingly granted. By his public address, the King Prithu laid down instructions for the guidance of his people, and after having learned "the Sublime Truths" from the four "*Sanaka*" brothers, renounced the world and retired with his wife to the forests for meditation, and there cast off his physical shell and attained perfect bliss and complete freedom or liberation from worldly ties, (*Mukti*).

Further down the line of succession came the king known as *Prāchīnabarhis*. He had a deep-rooted faith in the virtues and efficacy of sacrificial rites, and had accordingly arranged to perform them, one after another, in close succession, and for this purpose, the whole surface of the earth—his kingdom—was covered with bundles of *Kusa* grass spread with their pointed heads eastwards—and this was the origin and explanation of his name. While engaged thus, he met Devarshi Nārada who explained to him, by means of the famous parable of '*Puranjana*', the philosophical problem of worldly illusions, and thereby diverted his course from *Karma* (the Vedic rites prescribed for various purposes) to *Jnana* (true knowledge of '*Brahman*' through special courses of mental training and discipline). In course of his discourse, Rishi Nārada even went to the extent of condemning sacrifices involving inhuman slaughter of many innocent creatures which, he pointed out, remembering the bloody deed, would be waiting to wreak their vengeance on its perpetrator by attacking him with their horns of iron in the next world, and, by his *Yogic* skill, actually showed to the king, a number of such slaughtered animals revengefully waiting to pounce upon him after his death. So forcibly did the Rishi demonstrate the evils of the zealous sacrificial course that the king (*Prāchīnabarhis*) at once gave it up, and sought complete liberation of the soul through full realization of the "*Central Truth*" and the surrounding illusions. This king was succeeded by his ten sons—*Prachētas*—who followed the same course and were the last of the dynasty of Uttānapāda.

Priyavrata, the other son of 'Manu Svâyambhuva' was the ancestor of a different line of rulers among whom, 'Rishabhadeva', 'Bharata', and 'Sumati', deserve special notice in this study. Of these, the first was recognized as Vishnu himself incarnate and born as a son to King Nābhi and his wife, 'Mērudēvi'. He was, from the very beginning, free from all worldly cares and illusions, and, yet, lived and ruled to teach the people, by his own example, how real liberation from the material entanglements should be sought and obtained, then, renounced his throne and kingdom in favour of 'Bharata' the eldest of his one hundred sons, and went out wandering as a naked, indifferent and idiot-looking saint, in course of which, he visited various places, including, among others, Konka (Konkan), Venka (probably the country dominated by the Venkatagiri hill, Tirupathi) and Kotaku (Coorg) in the southern Karnatic country, and was at last consumed in a big wide-spread forest fire here. But before this holy life ended thus in fire, his teachings had spread far and wide, and the ruler of the country known as 'Arhat' learned them himself, which later, in the age of *Kali*, would be propagated as a new heretical dogma. And Rishabhadeva is now regarded as the founder of Jainism. His son, Bharata, was also a king of saintly character and disposition and struggled long, through some stages of trial, for liberation of his soul after renouncement. It was after him that this country (India) was called Bhārata Varsha. His son was Sumati who followed the footsteps of his grandfather Rishabhadeva, and would be wrongly represented and hailed, in the age of *Kali*, as the great Pākhandā teacher the 'Lord Buddha' himself. It is not proposed to pursue this line any further as it is short and unimportant, and not to the purpose of this paper.

The above brief account of the "Svâyambhuva" age was gathered from the *Skhandhas* iii—v of the '*Bhagavata Purana*' as interpreted by Sreedhara Swamin which deal with "primary creation, secondary creation, genealogy of gods and patriarchs and the reign of Manu Svâyambhuva", and which seem to throw much light on the inter-relationship among the three great religions of ancient India—Brahmanism, Buddhism and Jainism; and for further enlightenment on this subject, other passages will be referred to, and a careful investigation will also be made for finding the trace or parallel of 'Sumati' or his counterpart, in the Buddhist hierarchy; and this attempt at once recalls to the mind the story of 'Sumedha', the ascetic, as their names are literally synonymous in Sanskrit, and their careers, very similar on the cardinal point, as will appear from the latter's life sketch given below. He is said to have been born of wealthy Brahman parents in the city of Amarāwattī, and acquired all the wisdom while very young, by learning the Vedas and other ancient lore under his wise Guru, Dikpramukha; and so he

grew until his sixteenth year, when his parents died leaving behind them, a very large and fabulous amount of accumulated ancestral treasures, the whole of which, the wise boy, after deep thought, ordered to be placed at the disposal of the needy people, who accordingly swarmed and carried them away. Then he began seriously to seek the path of 'Righteousness' for final liberation from the recurring miseries of this world, (*i.e.*, birth, life, disease, old age, death, and then re-birth and so on) became a Bodhisatva; left his empty house; wandered to the Himalayas and lived there alone, an ascetic in deep meditation and contemplation. Lord Dipankara, a former Buddha, was then expected to pay a visit to the nearest city of Rambagampura. 'Sumedha', the ascetic, went there to participate in the grand reception of the Buddha. "He spread out his deer-skin over the mud and threw himself on it with uplifted hands turning his head towards the approaching Lord Buddha, Dipankara", who divining the devoted ascetic's wish to become a Buddha in future, and also the whole unseen future itself, saw that, "after *Kalpās* to come, 'Sumedha' would become a Buddha of wisdom and justice called *Gautama the Buddha*", in his distant future re-birth, or 'last life on earth as Prince Vesantara' who would afterwards become Prince Siddhartha, and would renounce the world in his twenty-ninth year under the Aswatta tree (the Bodhi-tree) in Buddhagaya. And so exactly all happened as prophesied. This story is a brief summary of what has appeared in "*The Young Citizen*" for September 1924 (Madras).

These are the important data available, and the conclusions drawn therefrom are briefly set forth as follows:—The origin of the *Pākḥanda* or heretical dogmas of the Jains, the Buddhists, etc., may, according to this Puranic account, be traced back to the earliest age in the life of the world (to the era of *Manu Svāyambhuva*) when Indra (lo! the clever piece of priestcraft here!) the very God who patronises sacrifices as the sole source of his livelihood, is made to adopt an uncompromising hostile attitude (heretical) towards them when they are indulged in, to excess. This opposition had to be met by a dignified climb-down. The rival interests or schools were reconciled by mutual accommodation. Then again, the sacrificial enormities were very severely condemned by Rishi Nārada in his advice to King Prāchīnabarhis. The heretical schools rose in revolt and opposition only when the sacrificial excesses were carried to an extreme (—animals were slaughtered in large numbers and treasures squandered on grand arrangements—in the worldly interests of the Brahman priesthood) and were out to suppress them at any cost. Otherwise, all these sects—the Vedic Brahmins, the Jains and the Buddhists—were the best associates living side by side in amity and peace, and on common humanitarian moral principles. And conversely, when Buddhism

rose in power and was engaged in an active and extreme anti-Brahmanical and anti-Vedic propaganda throughout India since the reign of the Great Buddhist Emperor Asoka, it came into open conflict with the Vedic orthodoxy which waited till its rival became thickly enveloped in a corrupt and vulnerable body of fragile materials, such as myths, superstitions, ceremonies, etc., etc., then overthrew it in close combat, emerged victorious as reformed Hinduism and established itself more firmly on the land. The compound word *Devanāṃpiya* (=Skt. *Devānāmpriya*) and its uses are very instructive here. This word is used as an epithet of Emperor Asoka in his Edicts meaning "dear to", or 'beloved of', Gods. But the grammarians have later authorized its use in a contemptible sense only, explaining it as meaning "an ignorant brute" or "an idle fellow addicted to pleasures or amusements". Patanjali (150 B.C.) is silent as to its meaning in the proper place (VI—3—1)* where its formation is under notice, but uses it in another context (II—4—1)† where his commentator explains it in the above bad sense to which its use is now restricted. This change of meaning is an interesting subject for further study and discussion which would be out of place if the epithet is taken to be, not as a compound word, but made up of two separate words not combined. But it is evidently a compound word with an interesting history. Again, if the Pākḥanda schools are to be considered as old as the Vedic orthodoxy, are we not to understand or suppose the former (pre-Gautama) and the future (post-Gautama) Buddhas as the teachers and preachers of the Buddhist or allied gospel or doctrines in different epochs?

This paper will be concluded with one or more pertinent observations. The first is that Rishabhadeva's divine mission* as described by a prose passage in the '*Bhagavata Purana*' (V—3—21) was to point out the paths of righteousness (*dharmas*) to '*Vataraśānas*', '*Sramanās*', '*Rishis*', and '*Ūrdhvamanthins*' all of which, the commentator, Sreedhara Swamin, seems to take as qualifying adjectives referring to a common noun understood. For, he interprets the first as 'naked', and then, to exclude the Pākḥandins (evidently, the Digambaras) explains the next word '*Sramanās*' as '*Tapas-wins*' (undergoing severe disciplinary course, or doing penance). The next word '*Rishis*' is explained as '*Jñānins*' (being possessed of true knowledge and wisdom), and the last '*Ūrdhvamanthins*' as practising, or pledged to, life-long celibacy. So, in his address to his sons, Rishabhadeva denounced worldliness, commended holy life leading to complete emancipation, and extolled true Brahmanhood. But considering their mutual tolerance, brotherhood, and respect (e.g., Rishabha and Buddha are invoked in Puranic prayers);

* Vide under Panini VI—3—21 ("षष्ठ्या आक्रोशे")

† Vide under *Ibid.* II—4—56 ("अजेव्यघजपोः")

and considering the general application of the title of 'Sramana' to the Jaina and Buddhist ascetics, it may, with due deference to the orthodox interpretation, be, respectfully, asked whether and why all the three sects—the Brahmans, the Jains and the Buddhists—might not have been included in the wide field of Rishabhadeva's missionary activities, and whether and why the last two should be excluded therefrom. He was preaching the high ideals common to all these three schools, and the context also is so very significant that this suggestion is unavoidable. The second is that Jainism preceded Buddhism in age as represented by their respective founders, *Rishabhadeva* and his grandson *Sumati*; yet, they were closely related in origin, theory and practice. Further evidences are not wanting. The words *Buddha* and *Jina* are grouped as synonyms in Amara's *Lexicon*, and Buddha is described as '*Jina-Suta*' (Jina's son) in the '*Bhagavata Purana*' (I—3—23). My last observation is that the commentator of "*Sankaravijaya*" seems to divide the word '*Pākhanda*' into *Pā* (True knowledge) and *Khanda* (Destroyer) which ignores the Puranic tradition and is even at variance with it.

INDIAN NURSERY RHYMES.

BY C. HAYAVADANA RAO, ESQ., B.A., B.L.

EUROPEANS are pretty familiar with the poetry that their children delight in. But it is perhaps not quite so well-known that in India there is a large mass of oral literature of the same kind. Its popularity has contributed not a little to its survival into our own times. The late Mr. Gover, a fine Tamil scholar and an enthusiast in folk-lore matters, who was unfortunately cut off in the prime of his life about 1871, made an attempt to collect it but how difficult the task proved to him may be gathered from what he has left on record. "Considerable effort," he says, "has been expended in the vain attempt to gather such songs in all the Dravidian tongues. They are sung only by the women and are never written down. But a Hindu woman has an insuperable objection to permitting a European to know aught of the internal economy of her house. The secrecy of domestic life, to which Sir H. S. Maine in his "Village Communities" draws marked attention, forbids that a stranger should ever be informed of anything so private as the mode in which a mother soothes her child to rest. I have heard women singing again and again but when they are asked to repeat for our information what they have told the child, they pretend not to understand what we mean or, if this be impossible, declare that they have forgotten the rhymes." These songs, if collected with assiduity, would fill a volume. A few may be considered here. One of the commonest is the well-known one of the "Fingers Five", which may be thus rendered :—

Says the little finger,
We shall eat the cake;
Says the ring finger,
Who is to pay for it;
Says the middle finger,
Let us contract a debt;
Says the forefinger,
Who is to clear the debt;
Says the thumb,
Here am I, the little blackguard

In the Coorg country the following is familiar :—

The little finger nail is small,
The finger for the ring is gold;
The middle finger loveth coins,
The fourth is called Kotera;
The thumb Marutika,
And both are gone for cheese,

Do not these recall the familiar lines :—

This pig went to market,
 This pig staid at home,
 This pig had roast beef,
 This pig had none,
 And this one cried “wee-wee”;

All these songs are accompanied by the same action—the mother, elder sister or nurse pulling each tiny finger as she refers to it in the song. Take this, again, which relates to our familiar friend, the crow :—

Kav, Kav, sit here ;
 Chiev, Chiev, sit there ;
 Eat the seeds, drink the draught ;
 And fly away “burr”.

With that may be compared the following on the crow's wedding :—

Call the crow's sister !
 When is the wedding ?
 To-morrow, or Sunday morn.
 All the kite's young ones
 Perished in the stream.
 All the crow's young ones
 Are searching for cheese.

Another Coorg song, translated by Mr. Gover, entitled the “Doves Family” goes :—

Cooing, cooing, cooing dove !
 How many young ones have you ?
 Five little ones I have hatched.
 Where are the little ones now ?
 On a strong bough I left them.
 I cannot see them on the bough,
 A crow has carried them off.

The following is about little chickens :—

An old story, an old story !
 Clever Brahman, an old story !
 What shall I pay ?
 I know none.
 Little chickens ! little chickens !
 Sing me a song !
 What can I sing ?
 Pyong ! Pyong !

Rain has many songs, for it is, perhaps, amongst the most impressive experiences of children all the world over. Little ones, dancing caper and crow in the drizzling rain, repeat over and over, in the Kanarese country :—

Rain is come,
Oh ! Mallappa !
Unfold the umbrella
Oh ! Koneri !

Compare with it the Marathi song :—

It rains ! it rains !
Talk away, talk away.
Oh ! Oh ! Rain !
Rain ! Rain ! Rain !
I give you a pice
Rain ! Rain ! Rain !

A Tamil couplet goes :—

Sunshine go ! rain come !
Rain go ! sunshine come !

Coorg children sing :—

While Benga praises thee
And Padi sings to thee,
Stop, rain, stop.

A noteworthy rhyme is that connected with the “ Lost Hands ” which runs thus :—

Where are the hands gone ?
They are gone behind the door.
What did the door give ?
It gave a pot.
What did you with the pot ?
Poured water to the flower-tree.
What did the flower-tree give ?
It gave flowers.
What did you with the flowers ?
Worshipped God with it.
What did God give ?
Hands ! Hands ! Hands !

The following song is a very popular one with Telugu children round Madras :—

Pound, Pound, the excellent rice,
 Fill, fill, the bag brimful,
 Let's to Kanchi, to (behold) the festival there,
 The bag is gone, Oh! Raghava!
 The bag is gone, Oh! Raghava!

“Kanchi” is the famous place of pilgrimage known now as Conjeeveram and “Raghava” is a term of ejaculation after the deity at Tiruvallur.

A common mode of silencing Hindu children is to give them a long and vivid account of a marriage. The three important things in a Hindu marriage are music, dinners and the distribution of betel and areca-nuts to the guests. A well-known Tamil nursery rhyme goes:—

At Ammakutti's marriage,
 Music plays in the Temple,
 Dinners are at their houses,
 And betel and nuts are in the bazaar,

which satirises an ill-conducted marriage with great force. Not even the poorest Hindu's marriage is so bad as that. Of all relations, the maternal uncle is reckoned the most important amongst the Hindus of Southern India. He plays a very prominent part in their marriages, being entitled to the hand of his sister's daughter, if he is himself unmarried, and if not, to the right of disposing of her according to his own desire. He is also entitled, when the girl is given to an outsider, to the bride-price. He, therefore, figures conspicuously in the nursery songs of the Hindus, who make their children pronounce “uncle” and “aunt” very early in their lives. Take the following which is quite a familiar one amongst the Kanarese people:—

Uncle! uncle!
 Stealer of cakes!
 In the bazaar,
 Stealer of nuts!
 In the house,
 Stealer of wife!

Compare with it the following one, current amongst the Mahratta Brahmans of the South:—

Bow, bow, my child,
 Uncle is coming,
 A cocoanut half
 He is bringing,
 Aunt comes
 And snatches it away!

TRAVANCORE KINGS IN EPIGRAPHY.

BY A. S. RAMANATHA AYYAR, ESQ., B.A., M.R.A.S.

ETYMOLOGICALLY, the word 'history' means inquiry or research for knowledge in the widest sense, and it therefore primarily connoted only an investigation, not a narrative. But later on, when 'history' acquired the significance of a study of events and a record of what happened, the names and doings of individuals, royal and otherwise, came to constitute the most important of the facts that went to make up the rudimentary history of a nation. With the development, however, of historiography as a science, the several aspects of the life of a nation were given prominence—political, religious, sociological, economical, etc., according to the taste and capacity of the several writers on the subject.

One of the prolific sources from which the ancient history of India can be collated is the sacred literature, especially the Puranas, which in their present swollen recensions are encyclopædias of all conceivable forms of tradition, myth and fable. But Mr. Pargiter has, in his *Ancient Historical Tradition* and *Dynasties of the Kali Age*, ably vindicated their utility for the reconstruction of ancient history, by a judicious use made of the material contained in them. In attempts of this sort, great care has necessarily to be exercised to weed out the parasitical growths, which the imagination has managed to graft onto the slender historical trunk.

Next comes the mass of secular literature, which is also an important mine of raw material; but even here the historical data are very often completely superimposed by the earth and debris of romance and fable. In the case of panegyrical works, historical accuracy played but a secondary rôle with the obsequious poets, whose theme was the glorification of their respective patrons and who therefore drew largely from their own imagination in lauding their heroes, or rather victims, in terms more or less imaginary and hyperbolic. A petty chieftain, who got a gratuitous lift to the status of a *samrāt*, was compared to a Mēru in wealth, a Dharmarāja in patience, an Arjuna in archery and a very Hariśchandra in integrity! The puppet king Sadāśiva of the declining Vijayanagara Dynasty, who was perhaps afraid of even his bath-tub was a veritable Lord of all the four oceans—the northern included!—(*pūrva-paścima-dakṣiṇa-uttara-samudrādhipati*) and an insignificant chief too timorous to say 'boo' to a goose, was, in the inflated language of the eulogist, a terrible *pañchānana* (lion) in slaughtering his enemy herds. The work of pruning has therefore to be done on a large

scale, before one can get at the historical fruit hidden underneath the poetic verbiage of such panegyrical 'wishing trees'.

There are again a few late works purporting to be quasi-historical chronicles, but their number is small. In them also it may be noticed that the Indian mind has not divested itself of its love of romance and that their value is vitiated by the introduction of irrelevant and often erroneous matter, without any respect for historical or chronological sequence. This tendency is well illustrated by the *Kēraḷōlpatti*, which imports an Aṇḇgundi Krishṇarāya of Vijayanagar to the rescue of the bewildered Brahmans of Kēraḷa in the middle of the fifth century A.D.! The materials from such narratives of doubtful age and veracity have, therefore, to be utilized with caution; but, in spite of glaring errors, a few points of interest are now and then gatherable from them.

Another source of information for the history of India is contained in the narratives of foreigners—Europeans, Chinese and Arabs—who had sojourned in India as diplomats, scholars, commercial travellers or enterprising missionaries, and who had recorded in writing their own observations on the manners and customs of the people, and other contemporary events. Some indiscriminating authors there have also been among them who have collected together all sorts of cock-and-bull stories; but barring these, the foreigners' accounts have been found to be generally reliable except where they have included information, tinged with a religious bias or uncritically collected from mere hearsay.

Last and most important of all, has to be mentioned the help afforded by records on stone and copper; but epigraphy has its own limitations both of time and subject-matter. Inscriptions have, however, the great advantage of being contemporary documents of the events they record and this feature adds much to their historical accuracy; but even with regard to them, the dangers resulting from indifferent calligraphy and intentional forgery have to be guarded against. Epigraphs are generally copied on stone and copper from written facsimiles and it sometimes happens that unintentional errors are perpetrated by an indifferent or unlettered engraver. Epigraphical forgeries are also not uncommon, and any interested party equipped with a copper sheet beaten to the proper shape, an engraving tool and a smattering of the documentary style could fabricate a record, and if he was also posted well with certain historical details and had paid some attention to palæographical intricacies, his handicraft could easily defy detection. Though such cases are fortunately rare, great care and discretion have nevertheless to be used in accepting doubtful data.

In their subject-matter also, these inscriptions are disappointing, as they relate mostly to temple endowments, etc., and it is only as a secondary piece

of information that the name of the reigning king of the period is given, coupled, in some rare instances, with specific Śaka or Kali dates. These meagre details thus found scattered here and there have to be garnered with all care; for, whatever enlarged view may be taken of the scope of history, a chronological groundwork is an essential requisite. Epigraphy is, in this respect, of very great service, bony and angular it may be to outward appearance, but quite an indispensable *śirṛāl* (assistant) to the historical mason.

Travancore, where timber was largely used in temple architecture, is somewhat poor in early lithic records; but such records as have till now been examined, disclose the names of a number of kings, which would otherwise have been lost in oblivion. There are a few gaps here and there, some large and some small, and several known kings are also absent from the appended list, because they have not been represented in the lithic records. The figures in the second column represent the English equivalents of the Kollam dates actually found in the inscriptions, and do not specify the lengths of the reign of the several kings. But incomplete though this list happens to be at present, it has its own value as the preliminary peg-markings of a historical 'survey'.

NAMES OF KINGS	DATES
Ayyanaḍiḡal-Tiruvāḍi	[c. 870]
Rāma-Tiruvāḍi	[c. 900]
Vallabhaṇ-Kōdai	974-91
Gōvarddhana-Mārttāṇḍavarman	992-10-16
Vikkiraman.....	1102
Vira-Kēraḷavarman	1125-26
Kōdai-Kēraḷavarman	1145-51
Vira Ravivarman	1161
Vira Udayamārttāṇḍavarman, s.a. Kōdai-Mārttāṇḍavarman	1184-89 or 1189-96
Vira Rāmavarman-Tiruvāḍi, s.a. Vira Maṇikaṇṭhan-Rāmavarman	1196-97
Vira Rāman-Kēraḷavarman, s.a. Vira Dēvadaran-Kēraḷavarman	1209-15
Vira Ravi-Kēraḷavarman, s.a. Vira Kēraḷavarman-Tiruvāḍi	1217-37
Vira Padmanābha-Mārttāṇḍavarman-Tiruvāḍi, s.a. Vira Ravi-Udayamārttāṇḍavarman	1251-52
Umādēvi of Kūpaka married Yādava Jayasimha-Vira Kēraḷa I

NAMES OF KINGS	DATES
Ravivarman-Kulaśekhara Saṅgrāmadhīra ...	1299-1313
Vīra Udayamārttāṇḍavarman-Tiruvāḍiyar <i>alias</i> Vīra-Pāṇḍyadēva ...	1313-16
Ravi-Ravivarman ...	1372
Āḍityavarman Sarvāṅganātha ...	1374
Mārttāṇḍavarman, <i>s.a.</i> Vīra Kēraḷa-Mārttāṇḍavarman ...	1403-34
Vīra Rāma-Mārttāṇḍavarman ...	1439
Seṇbaga-Āḍityavarman ...	1463-64
Vīra Ravi-Ravivarman ...	1465
Vīra Rāma-Rāmavarman ...	1471-79
Mārttāṇḍavarman ...	1480
Āḍityavarman ...	1484
Jayasimha Vīra Kēraḷavarman II ...	1496
Vmk. Bhv.* Udayamārttāṇḍavarman ...	1517-35
Vmk. Bhv. Ravivarman ...	1537
Sakalakalai Mārttāṇḍavarman ...	1541
Vmk. Bhv. Rāmavarman ...	1541-47
Vmk. Bhv. Vīra Kēraḷavarman ...	1545
Ravi-Kulaśekhara-Perumāḷ ...	1555
Vmk. Bhv. Vīra Kēraḷan ...	1558
Āḍityavarman ...	1559
Vīra Udayamārttāṇḍavarman-Tiruvāḍi ...	1571
Ravivarman ...	1587
Vmk. Bhv. Rāmavarman ...	1579
Vīra Ravi-Ravivarman-Kulaśekhara ...	1598-1606
Vīra Mārttāṇḍa-Ravivarman ...	1606
Uṇṇi-Kēraḷa ...	1616
Vīra Ravivarman ...	1623-46
Vīra Ravi-Ravivarman ...	1655-59
Vīra Kēraḷavarman ...	1696
Rāmavarman
Bālamārttāṇḍavarman ...	1729-44
Bālarāmavarman <i>s.a.</i> Rāmavarman Kulaśēkharaperumāḷ ...	1760-70

* Vmk. Bhv. = Veṇṇu-maṇ-koṇḍa Bhūtalavīra.

THE DATE OF THE ARTHASAŚTRA.

BY A. RANGASVAMI SARASVATI, ESQ., B.A.

THE Punjab Sanskrit series has published the Arthaśāstra of Kauṭilya or Kauṭalya under the able editorship of Doctors J. Jolly and R. Schmidt. The edition contains a valuable introduction extending to about fifty pages, dealing with such topics as the contents of the work, its relation to other works of about the period quoting from and quoted by the Arthaśāstra and its date. In this discussion they come to the conclusion that Chāṇakya, the Prime Minister of Chandragupta is probably "a figure of pure mythology as he is not mentioned in the Greek Reports concerning Sandrakottas and as Hēma-chandra relates very marvellous stories about him".

Again they say, "The Arthaśāstra considering its close alliance with the Kāmasūtra is not likely to have been composed more than a century earlier at most" (p. 29). If then, the fourth century A.D. be taken as the probable date of the Kāmasūtra, the Arthaśāstra might have been composed in the previous century. The most original and telling argument in fixing the date of the Arthaśāstra is the philological argument. To quote their own words, "Thus the Arthaśāstra refers to Alchemy (II. 12) which was a late growth on the tree of Indian Science and makes frequent use of the late term "Śulba" for copper, *e.g.*, in the compound "Śulbadhātu-śāstra, the science of the metal called Śulba", also of the term Suruṅga or Suraṅga, which is probably derived from Syrinz, a Greek Hellenistic word often occurring in the description of a siege in Polybius and Diodorus." This and some other less convincing arguments lead the authors to fix the third century A.D. as the period of the composition of the Arthaśāstra.

Is the resemblance of the selected words to their supposed Hellenistic originals so complete as to preclude any other theory as to the origin of these words? Both the words appear direct imports from the Dravidian languages. The forms in which they are found in the latter seem nearer than the Hellenistic words. The word Śulba is very closely connected with the Dravidian Śeppu, or Śembu or colloquial Śombu meaning copper. The word is found in that sense in both classical as well as modern Tamil. The cognate languages Telugu and Kannada also have the word in the same form with no change. Śembu in later periods becomes Chembu in both these latter languages. Although the further derivation of this root is lost sight of in the Telugu and Kannada Grammars, ancient Tamil Grammar has preserved some clue to it. According to it the word Śembu is derived from Śembon. The

word can be split up into its parts, Sem *plus* Pon. The word 'Pon' which in modern Tamil means gold seems in ancient Tamil to have merely connoted the idea of a metal generally. From it are derived all the words denoting other metals in Tamil. Thus "Sem *plus* Pon = "Sempon, Vel *plus* Pon = Velpon and Irum *plus* Pon = Irumbon. Sempon means red metal, Velpon means white metal, Irumbon means black metal. These words signify respectively copper, silver and iron.

Now the word Suraṅga is found in exactly the same form in all the three chief Dravidian languages, Tamil, Kannada and Telugu. Suraṅga in all these languages means a mine. The use of the two words Śulba and Suranga is very rare in Sanskrit literature and nobody claims that these words were borrowed into the Dravidian languages from Sanskrit. Nor is it likely that these Dravidian words are borrowed from the Hellenistic languages, or from reading the works of Polybius or Diodorus by the ancient Dravidians or Aryans. Again it should be noted that the word Suraṅga is not a literary word in all the three principal Dravidian languages, but belongs to the spoken dialect even to-day. In the circumstances it is much more unlikely that the words were borrowed from the Greek unto the Dravidian languages.

Another chief argument for disbelieving that the Arthaśāstra did not belong to the period of the first Maurya is the numerous and glaring discrepancies between Megasthenes, the Greek Ambassador at Chandragupta's Court and the Arthaśāstra. But it is very highly doubtful if Megasthenes can be taken as giving a correct or even an approximate account of the Indian society and politics of the time. The editors themselves have shown how the account of Megasthenes does not represent the actual condition of India of his time and this is attributed "to some extent to the idealizing tendencies of the Greek writer, who was anxious to present the life and manners of the Indians in a very favourable light".

The Arthaśāstra represents Indian metallurgy in a very developed stage and also refers to various processes of Indian Alchemy. Regarding this point the editors quote the authority of Dr. Roy's History of Hindu Chemistry. He had attributed Hindu Chemistry to a Greco-Syriac source and to the third century A.D. But the reasons which led Dr. Roy to fix the third century for Indian Alchemy and the Syrian source do not exist in the case of the Arthaśāstra. The latter work does not mention either Rūma (Rome) or Phiraṅgas (Franks) or Mlecchas (Barbarians). Surely if the Arthaśāstra had been available before his writing his valuable work Dr. Roy would have quoted the Arthaśāstra for the earlier development of Indian Alchemy.

Leaving now the consideration of the opinions of the editors as to the date of the Arthaśāstra, a small point should be mentioned here that might be

quoted for the late origin of the work which is not noticed by them. Kauṭalya quotes and refers to in many points as his predecessor the opinions of Bṛihaspati, an earlier writer on the Arthaśāstra. A Bṛihaspati is mentioned in several Jain works as a voluminous writer who wrote on the Chārvaka Philosophy and to have lived in the court of a Śātavāhana of Pratiṣṭhāna. Here he is said to have been the contemporary of three other famous authors and Śāstrakaras, Kapila of the Sāṅkhya sutras, Ātrēya, the Āyurvēdasamhitākāra, and Pāṇchāla, the Bābhraṇi of the Kāmasutras. But it requires to be proved beforehand whether this agnostic Bṛihaspati of the Śātavāhana's court is the same as the Arthaśāstrakāra. Or can it be that the agnostic philosopher of Śātavāhana's court was merely given a second name (नामान्तर) after Bṛihaspati, the agnostic philosopher mentioned in the Rāmāyaṇa, Mahābhārata and other ancient works?

The arguments that Kauṭalya did not live in the time of Chandragupta because he does not mention his capital Pāṭaliputra and Megasthenes does not mention him and later authors like Hēmachandra narrate marvellous reports about him are not convincing. The non-mention of Pāṭaliputra cannot be an argument either for or against the historicity of Chāṇakya and much more marvellous stories are narrated by Indian story-writers about many other famous characters, so much so, that it is unnecessary to narrate them here. So far there does not seem to be anything to prove that Chāṇakya was not a historical person or that he did not live in the Mauryan court.

WHETHER SHRIMAT VYAS WAS A CONTEMPORARY OF THE PERSIAN PROPHET ZOROASTER ?

BY V. H. VADER, ESQ., B.A., LL.B.

(Continued from last issue.)

THE present is the thirty-third कल्प called श्वेतवाराह. In the द्वापरयुग's of every मन्वन्तर of this Kalpa, the glorious Vishnu assumed the incarnation of महामुनि and illustrious प्रजापति of वेदव्यास. The several Vyāsas beholding the diminution of the prowess and energy of mankind they for their behoof divided the Vedas into various divisions. They then instructed either their sons or pupils, each getting one Veda. In the table that appeared in the last issue, the first column shows the serial number of the द्वापरयुग; the second column the name of the महामुनि, the incarnation of Vishṇu; the third column gives the name of the place where the महामुनि practised penance. The fourth column mentions the names of the several incarnations of प्रजापति called वेदव्यास and the last gives the names of the sons of, or the pupils of, the महामुनि or व्यास. The Vishṇu and other Purānas have not treated this subject so clearly as the Vāyu-Purāna has done. In अंश 3, अध्याय 3 the Vishṇu-Purāna says:—In the वैवस्वतमन्वन्तर (*i.e.*, the current *manwantar*) in every Dwapar age the Rishis divided the Vedas twenty-eight times and accordingly twenty-eight Vyāsas have passed away who divided the Vedas in respective periods into four. The names of several Vyāsas given by Vishṇu-Purāna tally in general with those given above. In Vishṇu-Purāna पराशर himself has narrated the history. He says:—“The twenty-fifth Vyasa was शक्ति my father; and I was of the twenty-sixth period. I was succeeded by जरत्कारु in the twenty-seventh पर्याय (period).” After this it is stated that the Vyasa of the twenty-eighth period was कृष्णद्वैपायन, son of पराशर.

Twenty-fifth	शक्ति	}
Twenty-sixth	पराशर	
Twenty-eighth	कृष्णद्वैपायन	

These three Vyāsas seem to be the contemporaries of the Mahabharata war or Shri Krishna period.

The name of the twenty-seventh one as given by Vishṇu-Purāna is जरत्कारु while वायुपुराण gives it as Jātūkarnya.

This जातूकर्ण्य belonged to the family of वसिष्ठ. This name is also a patronymic and so there were several of the name. जातूकर्ण्य is said to have taught द्वैपायनव्यास (twenty-eighth Vyasa) the Vedas and Purana (वायु I. 144) and he is described as Vyasa's (द्वैपायन) predecessor as regards the Veda. Mr. Pargitter

thinks that the above list of the successive Vyasas in the twenty-eight Dwa-paras of this मन्वंतर is a fanciful one. We find these lists in the following as well as in the वायु, chapter twenty-three, quoted above:—

ब्रह्माण्ड	II. 35.	116-125.
लिंग	I. 7.	12-18.
कूर्म	I. 52.	1-8.

About the offsprings of नरिष्यंत, son of वैवस्वत मनु, there is much confusion. Brahma and Agni Purānas say they were the *Shakas*. If so, they lived outside India. Bhāgawat Purāna says they developed into the अग्निवेद्यायन Brahmins (*vide* भागवत स्कंध IX. 2, 19-22). The last of the Agniveshyas was जातूकर्ण्य famed as कानीन and from him sprang the family of the Agniveshyāyan Brahmins. In his chapter on "Certain post-Vedic Teachers", Judge Pargitter (*Ancient Hindu Historical Tradition*, p. 324) says:—"Contemporary with श्वेतकेतु were पंचाल, king प्रवाहणजैवाल and जलजातूकर्ण्य (*vide* बृहदारण्यकोपनिषद् VI. 2. 1). This श्वेतकेतु had a son begotten of his wife by a disciple at his request, called श्वेतकेतु औद्दालकि आरुणेय (*vide* Mahabharat आदिपर्व अध्याय १२२).

It is important to note that this जातूकर्ण्य the twenty-seventh Vyasa and teacher of the next व्यास कृष्णद्वैपायन, receives the name of जरत्कार in the list of Vyasas given by Vishṇu-Purāna.

Now regarding the word कार the निरुक्त has enumerated the word as a name for a स्तोता or a composer of Vedic verses.

The word कार occurs in Rig. VIII. 6. 9. 1.

The word कार means कर्ता or a ऋत्विज, *i.e.*, hymn reciters.

At any rate we are justified in holding that जरत् कार means literally an ancient reciter of hymns. Dr. Abinas Chandra in his 'Rigvedic India', p. 141, says:—

"Some of the nomadic Aryan tribes were also called by the name of Sarpas (serpents) and Garudas (eagles) on account of their constant movement and migratory habits. In the ऐतरेयब्राह्मण we find mention made of a Rishi of the Sarpa tribe who was called Arbuda and presided at a sacrifice held by the Brahmanas (ऐ. ब्राह्मण VI. 26. 1). 'In the Mahabharat we find the name of a Rishi whose name was Jaratkāru and who married the sister of Vāsuki, the king of the Sarpas.' Pliny informs us that a tribe called *Sarpara* resided near the Oxus or R. इक्षुमती which in its westward course flows through the Districts of Koondooz, and Balkh in the northern frontiers of Afghanistan. Koondooz was known in the times of Panini by the name of खंडु and Balkh is the बाल्हीक of the Mahabharat, so named probably after the name of Prince Bālhik, its first ruler, the son of Pratīp, the brother of Shantanu and uncle of Bhishma.

This बाल्हीक प्रातीपीय is mentioned in शतपथ ब्राह्मण XII. 9. 3. 1-3.

Besides the Garudas and Sarpas or Nagas there were other nomadic Indo-Aryan tribes under the name of Yāyāvaras (literally, wanderers). A sage of that tribe whose name was जरत्कार married the beautiful sister of Vāsuki, the king of the Nagas or serpents. The issue of this union was the great sage Āstika who played a very important rôle in the Sarpasatra of King Janamejaya, grandson of अभिसन्धु. Now several important questions simultaneously strike us :

1st :—Whether the twenty-seventh Vyasa named जरत्कार of the Jātū-karnya family is the same personage who married the sister of the Sarpa king Vāsuki ?

2nd :—Whether Āstika, the issue from the union of जरत्कार and Vāsuki's sister, who played the most important part in the सर्पसत्र of Raja Janamejaya is referred to in the Zendavesta or other ancient literature ?

3rd :—If so, what will be the rational meaning of the allegorical tradition of the सर्पसत्र of Raja जनमेजय, a memory of which is so studiously preserved by all the Purānas ?

4th :—This story of सर्पसत्र is given as a sequel to the legend of Kashyapa and his two wives कद्रु and विनता in the Āstika पर्व of Ādi Parva. This occupies thirteenth to fifty-eighth chapters of the Ādi Parva. Is it possible to make out the intention of Shri Vyasa in connecting the Garuda legend with the birth and exploits of the renowned Āstika Rishi ?

5th :—What does the allegory contained in the Garuda myth really signify ?

Regarding the सर्पसत्र of King Janamejaya we may remark that the Sarpas, who were thrown into the sacrificial fire, were descendants of one of the five races of men mentioned as पंच जनाः in VI Part of the ऐतरेय ब्राह्मण. The Rishi Arbuda was one of the sons of कद्रु. These Sarpas form a constituent part of the Aryan idea of the five races of man :—देव, मनुष्य, गंधर्वाप्सरसः, सर्प and पितर. To them Agni was nothing but the culinary or sacrificial fire as actually seen. The Sarpas were inferior Aryas or rather excommunicated Aryas. The story of the serpent Rishi Arbuda as given in the ऐ. ब्राह्मण runs as follows :—Once upon a time the Dewas held a sacrificial session in the Sarvacharu. They were unsuccessful in destroying the evil effects of the sin as their procedure of the Sattras was wrong. The serpent Rishi Arbuda, son of Kashyapa and Kadru, who was also a seer of Vedic hymns said to the Devas :—“ The Hotar amongst you has, by mistake, omitted to perform one ceremony.” Dewas replied :—“ Well let it be done.” At every midday libation, Arbuda then came forth (from his cave), approached them and recited mantra over the Grāvās or Soma squeezing stones. Thenceforward the

Dewas following the instructions of Arbuda repeat spells similarly at ever midday libation.

The path by which this serpent Sage used to go when coming from his cave is now known by the name अर्बुदा सर्पाणी (at the sacrificial compound).

The Rig. I. 24-3 and Rig. X. 175 are seen by Arbuda Rishi and Rig. X. 94 by *Jarat Karna*, one of the serpent tribe also. This name may be perhaps same as जरत्कार. These and Rig. X. 76 very likely formed a portion of the so called सपेवेद. The गोपथब्राह्मण 1-10 is of opinion that this Veda came from the east and further states that the above four hymns did not formerly form part of the Rig. Dr. Martin Haug says that these may be very ancient. The deity of all the four is ग्रावाणः (pressing stones).

Dr. MacDonnell (p. 106) in his Vedic mythology says :—

“The usual name for pressing stones is Adri or Grāvan. The stones are also respectfully called Aśna (Rig. VII. 2-2), भरित (Rig. III. 36. 7) and पर्वता अद्रयः (Rig. X. 94. 1).

The pressing of Soma by means of stones was the usual method in the period of Rig. But the extraction of the juice by mortar and pestle, which is also sanctioned by ritual texts, was already known to the Rig. I. 28. 1 and as this method is in use among the Parsis, it may go back to the Indo-Iranian age.” On page 154, “Grāvan also Adri are deified in three hymns of Rigveda X. 96, 76 and 175.”

Further on p. 152 MacDonnell says :—

The most common animal form applied in this way is the serpent (Ah Av. Azhi).

The first born of the serpents is Vritra or Ahi.

The plural of the word is occasionally used to express a race of demon

Rig. IX. 88-4 } of whom the Ahi is the first born.

„ X. 139-6 } Vide Rig. I. 32. 3-4.

In later Samhita the Sarpas are found as a class of semi-divine beings besides the Gandharvas and others. They are spoken of as being in earth, air and heaven.

Vide V. S. 13. 6 वाजसनेयी संहिता.

T. B. 3. 1. 1. 7 तैत्तिरीय ब्राह्मण.

They are often mentioned in the A. V. 6, one hymn of which 11-9 sometimes interpreted as an invocation of certain serpent divinities.

In A. G. S. 3. 4. 1, these divinities are represented by the man-tiger (V. S. 30-8; S. B. 13. 2. 4. 2) and by the Nagas, human beings in appearance but in reality serpents, which are first mentioned under this name in the Sūtras. It does not seem likely that the later serpent worship had any

connection with the myth of the Vritra serpent but in development was probably due rather to the influence of the Aborigines. For on the one hand there is no trace of it in Rig. and on the other it has been found prevailing very widely among the Non-Aryan Indians. The Aryans doubtless found the cult extensively diffused among the natives when they spread over India the land of the serpents.

Col. Tod in his *Annals of Rajasthan*, Vol. I, p. 56, says about the race of Sarpas or Nagas as follows:—

“The direct line of Jarasandh terminated in twenty-three descents with Ripunjay.

“Shunaka, his minister, killed him and his line terminated in fifth generation with नंदिवर्धन.

“After him a new race entered India led by a conqueror termed शिशुनाग from Shes Nag Desa who ascended the Pandu throne and whose line terminated in ten descents with महानंद of spurious birth. Last prince was also named Bykyat.

“Shes Nag means figuratively the country of the “head of the Snake Nag, Tak, or Takshak being synonymous and I conclude it to be the abode of the ancient Scythic, Tochari of Strabo, the Tak-i-uks of the Chinese, the Tajuks of the present day of Turkistan. The race appears to be the same with that of Turushka (of the Purānas) who ruled on the Arverma (the Araxes) in Saca Dwipa or Scythia.”

Further Col. Tod says that “the Emperor Chandragupta Maurya belonged to the same Takshak race”. In the भविष्यपुराण it is mentioned that Prince सहस्रार्जुन who was paramount, conquered कर्कोटक of the Taksh Turushka or Snake race and brought with him the population of Mahish and founded हेमनगर in the north of India on his expulsion from his dominion on the Narbuda.

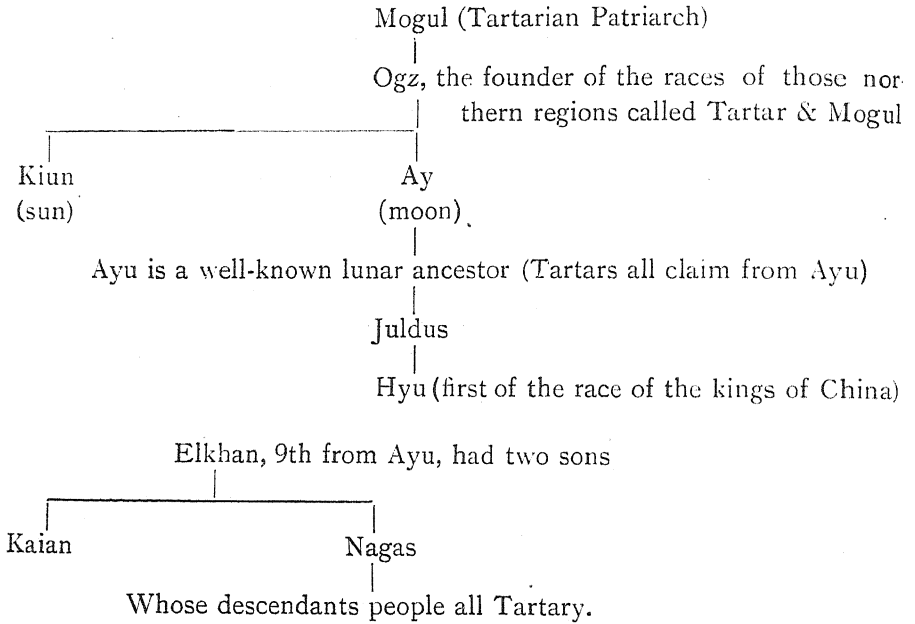
“The तक्षक or Snake race here alluded to will hereafter engage our attention. The names of animals in early times, planets and things inanimate, furnished symbolic appellations for various races. In the Bible we find the fly, the bee, the ram, to describe the Princes of Egypt, Assyria and Macedonia here we have the snake, horse, monkey, bear, etc. The snake of the Taksh race was one of the most extensive and earliest of Higher Asia and celebrated in all its extent and to which I shall have to recur hereafter.

“In the Ramayan, it is stated that the sacrificial horse was once stolen by a serpent (Takshak) assuming the form of Anant.” *

* भ. गी.—अनंतश्चास्मि नागानां सर्पाणामस्मि वासुकिः ॥

On p. 61 Col. Tod further says :

“Let us compare the origin of the Tartars and Moguls as given by Abulgazi with the races of the Puranas.



“From Kaian—Jungeezkhan claimed descent.

“Naga was probably the founder of the Takshak or Snake race of the Purānas and Tartar genealogies of the Tak-i-uk Moguls of De Guines.

“Sarpa and Nāga are Sanskrit names for a snake or serpent, the emblem of Budha or Mercury. The Naga race, so well-known to India, the Takshak or Tak-i-uks of Scythia, invaded India about six centuries B.C.

“Scythians had their abodes on the Araxes (the Arverma of the Purānas). Their origin was from a virgin born of the Ella of the shape of a woman from the waist upwards and below a serpent.

“Jupiter had a son by her named Scythes. He had two sons Pallas and Napas (Qu. the Nagas or Snake race of the Tartar genealogy?)”

On page 63, Vol. I, Col. Tod says :—

“As the Sacae, Gete, Aswa and Takshak are names which have crept in amongst our thirty-six Royal races common with others also to early civilization in Europe, let us seek further ancient authority on the original abodes.”

Strabo says :—“All the tribes east of the Caspian are called Scythic. All tribes are nomadic. But of these nomads the best known are the Âsi, the Pasiani, Tachari, Sacaranli who took Bactria from the Greeks. Âsi is the Ashwa race while Tachari is the Takshak or Turushka races of Saca Dwipa.”

Mr. Pinkerton in his splendid work "*On Goths*", Vol. II, p. 94, and sequel, has discovered Sakitia though he does not give his authority (D'Anville) for the Saca-Dwipa of the Purānas. "Sakitai, a region at the fountains of the Oxus and Jaxartes styled Sakita from Saca." [D'Anville—*Ancient Geography*.]

Further Col. Tod has remarked :—

"While the Takshak or Tak-i-uks may probably be discovered in the Tajuks still in his ancient haunts: the Transoxania and Chorasnia of Classic authors; the Mawar-ulnehr of the Persians; the Turan, Turkistan or Tocharistan of native Geography; the abode of Tachari, Takshak or Turushka invader of India described in the Purānas and existing inscriptions."

In the Atharva Veda we find several hymns about the Nagas, serpents and Takshak. The most important of these is Book VIII. 10 which is a glorification of the mystical abstraction Viraj; R.V. X. 90. 5 says that she is born from Purusha (the primeval male).

VIII. 10. Verse 28: "She mounted up and came to other people: her dear calf was Kubera."

VIII. 10. Verse 29: "She mounted up, she came unto the serpent. The serpent called her, Venomous: Come hither.

"Her calf was Takshak, Visatas' offspring: a bottle gourd supplied a milking vessel.

"Iraavan's offspring Dhritarashtra milked her and from her udder drew forth only poison.

"That poison quickens and supports the serpents: he who knows this becomes a meet supporter."

VIII. 10. Verse 31: "The knowledge and the mere wish or thought without any external action would be sufficient to counteract the deadliest poison."

VIII. 10. Verse 33: "The same knowledge enables a man to poison his enemy secretly. धृतराष्ट्र was a chief Naga called ऐरावत."

आदिपर्व, ch. 57, mentions several families of serpents burnt to death in the memorable Sarpa Sattra. The chief families were (1) वासुकि (2) तक्षक (3) ऐरावत (4) कौरव्य* (5) धृतराष्ट्र. In the same Parva (chapter 35) Souti gives a list of the important सर्प and नाग families. He says शेष was the first born of these.

Nahuṣa was also one of these. Regarding him A.V. XX. 36. 10 :—

"Give us confirmed prosperity, Oh Indra, vast and exhaustless for the foes subduing, strengthen here—with the Aryas hate and Dasas and let the arms of नहुष's be mighty."

* Arjuna is said to have married उलूपी, a daughter of a Nag of this family.

In a note on this Prof. Griffith says:— *Nahuṣas* were a people apparently distinct from the five Aryan tribes *par excellence* and dwellers on or near the Indus. The St. Petersburg Lexicon explains the word as meaning men generally but with the special sense of strangers or neighbours.

From this it is clear that these *Nahuṣas* must be the people of the serpent race called *Nahuṣas* after their original forefather, the *Nahuṣa Sarpa* or *Draco*. The *Nahuṣas* in the hymn cannot possibly mean here the subjects of the Emperor *Nahuṣa* of the Lunar Race.

A.V. VIII. 8. 15.—This hymn consists of a series of imprecations directed against a hostile army. “I send them forth Gandharvas, Apsaras, Gods, Serpents, Fathers and Holy-men that they may strike the army dead.”

Here also serpents means a race of people who were in the army, and who were to fight against the hostile army of the foes of the Aryas.

A.V. III. 26 and 27 are charms to win the favour of the serpents of all the regions under heaven.

There in hymn 27 the speakers' enemy is solemnly given over to the serpents for condign punishment.

In both the serpents are addressed as powerful super-human beings.

Now if we carefully go through stories of सर्पसत्र and the birth of Âstika we can safely draw the conclusion that the Sarpas or Nagas were a race of Aryan wanderers. That Vāsuki was the king of the Sarpas while Takshaka was a prince of the Naga tribe. This Takshaka managed to take vengeance on Parikshit by poisoning him as he (P.) meanly insulted the revered Shamik Rishi by throwing a dead serpent round his shoulders when he (Sh.) was practising penance. Takshak wickedly dissuaded the great Kashyap from approaching the cursed परीक्षित् and saving his life by the extraordinary prowess of his spells.

Jaratkāru, the great sage, was a bachelor at this time and was rapidly growing into old age. He once saw his forefathers who belonged to the family of the Rishis named ययावर in a great pit suspended with their head downwards, as they, being childless, were almost thoroughly disappointed of attaining final absolution. He was commanded by them to marry and in accordance with their wishes he was married to the sister of Vāsuki. Elapatra, another chief of the Sarpa tribe, convinced Vāsuki that the issue of this couple will save the Sarpas in future from being thrown into the sacrificial fire of Raja Janamejaya.

Âstika, son of जरत्कार, was brought up in his childhood by his maternal uncle in his palace and he learnt the four Vedas with their supplementary books under the tutorship of the great sage च्यवन भार्गव. आस्तिक turned out to be a great religionist and performed many a Vrata and penances while yet a

boy. He was by nature very virtuous and God-fearing. He was respected everywhere even by the elders as the foremost and proficient sage amongst the Vedic scholars although he was young in age.

I have here humbly to pray all orientalists whose special study lies in the field of old Arabic, Hebrew, Persian and Avesta Pahlvi literature, to make a very careful research and find out whether this sage Âstika or the Sarpa Sattra by King Janamejaya is anywhere referred to.

Regarding the etymological meaning of the word जरत्कार in ch. 40 of Adiparva, Souti explains it as follows :—जरा means emaciated condition and waste and कार means extreme or utmost : one whose body was reduced to a mere skeleton by severe penance. This interpretation is not satisfactory.

We have, however, already given above the meaning of the word explained by the Vedic etymologist, Yaska. He says the word जरत्कार means an ancient hymn reciter. कार means in Vedas a Ritwij or a Karta. Kâru means also carpenter ace to Amarkosh. Thus if जातूकर्ण्य was merely a surname of जरत्कार, the twenty-seventh Vyasa as given in Vāyu and corroborated by Vishṇu Purāna then, this may be in all probability the same personage as the one who married in his old age the sister of the serpent king Vāsuki, who was also named as Jarat-Kâru.

Thus if we agree with the above theory we may conclude that

- (1) Jaratkâru belonged formerly to the जातूकर्ण्य family of the वसिष्ठगोत्र ;
- (2) he was appointed a व्यास after पराशर and was the twenty-seventh in order ;
- (3) he was the spiritual preceptor of the next and twenty-eighth व्यास, a son of पराशर named कृष्णद्वैपायन. This twenty-eighth Vyasa is the author of the जय इतिहास which was further enlarged into the present Mahabharata ;
- (4) One step forward and we may surmise that जरत्कार was the Vyasa who met the All-holy Iranian Prophet Zoroaster at Balkh during the reign of the Iranian Emperor Gustasp.
- (5) That the सर्पसत्र of Raja Janamejaya was, in all probability, a massacre of the people of the several सर्प and Naga races that inhabited the country round about the rivers Oxus and the Araxes.

(6) The sage Âstika, son of the Vyasa Jaratkâru Jatûkarnya, diplomatically managed to bring about a treaty of mutual good-will between the Indo-Aryans under the rule of Raja Janamejaya and the hostile Arya wandering hordes, surnamed Sarpas and Nagas, under the petty sovereigns, such as Vāsuki, Takshak, Dhritarâshṭra, Kouravya and others.

REVIEWS.

History of Kerala.

BY K. P. PADMANABHA MENON.

[*Published by the Cochin Government Press.*]

IT is evident from a perusal of this volume that the author has given many years to research work, for he shows a close acquaintance with practically every book that deals with this part of India. Though he has presented a wealth of facts, he has not been tempted to draw many definite conclusions, perhaps a wise procedure in view of the fact that there is still a considerable amount of spade work to be done, before the materials necessary for a history of Kerala can be written. The method adopted by the author for setting forth the information he has derived from the study of the various sources is certainly an unusual one, and one that will probably not commend itself to serious workers. He has taken a series of letters written by one Jacobus Canter Vissher, a chaplain for several years in Cochin, at the beginning of the eighteenth century, and deals with the various statements made therein, using each to serve as a peg for whatever facts he may have gathered in the course of his investigations. The result is a volume that has practically no sequence. The mention of a word in the letters leads the author to a discourse covering several pages. This is not satisfactory, and from the point of view of the student, such a method is hardly calculated to be helpful. But in spite of this serious drawback to the volume, there is much that will prove of service in a study of the many interesting problems connected with the history of Kerala.

Attention may be drawn to one or two of the questions discussed. The chapter devoted to National Assemblies is of special interest when serious efforts are being made to find suitable means of developing self-government in this country, along lines that are adapted to the conditions of the people. The author points out that these National Assemblies form a peculiar feature of the early political organization of Malabar. "Tradition, as well as early records, so far as they are now extant, point unmistakeably to the fact that the early Brahmin oligarchy of Malabar was subject to the curb applied now and again by these national assemblies." He points out, in detail, the various assemblies responsible for the government of the country, and of the *Koottam* or assembly of the Nad, he says "It was a representative body of immense power, which, when necessity existed, set at naught the authority of the Raja and punished his ministers when they did unwarrantable acts." The full story of the development, in the absence of certain records, cannot now be told, but the conclusion arrived at, is that "The highly artificial constitution of the assemblies, the rules by

which they were worked and the means of punishment resorted to to enforce the attendance of its constituent members all point unmistakeably to a long-standing institution which acted as a strong weapon in the hands of the people to defend their rights and privileges against the unwarranted aggressions of royal authority." The author appears to make good his case for the existence of such a feudal system as gave the people a real part in the government of the country.

The earliest form of government in Malabar was republican, dominated over by the Brahmin theocracy. How this system was changed is stated in the following words: "When the Brahmans found that their sacerdotal profession necessarily clashed with their secular and worldly aspirations, and that, for one reason or other, they could not carry on the government of the country satisfactorily, they, in conjunction with the people of Kerala, resolved at a *Koottam* or national assembly to elect a king, whose rule was to be limited to a term of twelve years." Any suggestion that a priesthood, having a strong hold on the political government of a country, would give up that power because it interfered with their religious duties, carries, on the surface, its own denial. History does not teach that the priesthood, in any country, readily gives up whatever temporal power it has grasped. The true explanation is doubtless the conclusion arrived at by the author. "Facts and circumstances lead us to conclude that the alleged invitation to the Perumals to rule over Kerala by the Brahmins is but a euphemistic form of recording the undoubted historic fact of the conquest and subjugation of Malabar by the Chera, Chola, and Pandyan kings."

Much interest gathers around the question of Perumal's alleged conversion to the Muhammadan faith. Though the legend has had considerable vogue, the evidence does not appear to support it. Mr. Menon has gathered a considerable amount of evidence against this view, and this will probably be regarded as decisive.

The book contains a number of interesting engravings, and has an adequate index.

A. R. S.

The Mysore Archæological Report.

THE Second Report of the Mysore Archæological Department, to be published under the auspices of the University of Mysore, justifies the fears entertained at the time that, by its transfer, the Department was not likely to gain much. There were not sufficient funds forthcoming for extended tours of inspection. However, it is inexplicable how over half the amount sanctioned for repair and maintenance of several ancient monuments was not utilized during the year.

It is regrettable that in spite of repeated efforts in that direction, and the report of a committee, the repair and restoration work of the Halebid and Belur temples have not been going on satisfactorily; it is greatly to be feared that further neglect may make any effective repairs impossible.

Of the thirteen villages included in the detailed monumental survey during the year, reference may be made to the twin temples at Mosale in the Hassan Taluk, dedicated to the worship of Vishnu and Siva, testifying to the catholicity of view of the Hoysala Rulers. A detailed description of the temples is to be found on pp. 6 to 9 of the Report under review. It is gratifying to note that the Director has recommended its inclusion in the I Class of the List of Ancient Monuments, as it is a rare specimen, comparable to the Marale temple in the Chikmagalur Taluk in having the shrines dedicated to different sects owing their existence to the bounty of one individual.

Under Protection of Monuments, it will be noticed that the Director rightly appeals to all executive officers of the State in the several Departments to include ancient temples in their jurisdiction during their itinerary and report on their condition whenever called for and we heartily join him in this appeal. Local officers and the people on the spot can render a great help to prevent deterioration of ancient monuments by timely report and petty clearance and repair work under the general guidance and supervision of the Director of Archæological Researches.

Nagakumaracharita, Guruganaratnakara are among the works noticed in the Report, the former of which throws a flood of light on the history of the Nagas. 124 new epigraphical records were collected and published and 50 coins examined during the year.

Of the Archæological Museum newly opened during the year, high hopes may legitimately be entertained. Karnataka Sabdanusasanam has already been noticed in these pages.

The monograph on Halebid temple is still under preparation. May we hope it will be published soon?

S.

Memoirs of the Archæological Survey of India : “Kannada Poets mentioned in Inscriptions.”

BY T. T. SHARMAN.

“KANNADA Poets mentioned in Inscriptions”, by Mr. T. T. Sharman, a Kannadiga and a Mysorean, is a very welcome memoir to every lover of Kannada literature. We congratulate the author on this publication. The Memoir deals with some of the illustrious Kannada Poets of the 8th to 15th century A.D., the material being collected from the Inscriptions collected in the Madras Presidency, like the Sasana Padya Manjari in Mysore, and as such serves as a useful supplement to the Lives of the Kannada Poets, published by Rao Bahadur R. Narasimhachar. This brochure in the Archæological Survey of India series may be confidently expected to be the forerunner of other equally brilliant works under the distinguished editorship of Rao Sahib H. Krishna Shastri.

S. M. S.

The Indian Historical Quarterly, June 1925.

THE above Quarterly has been recently started under the able and distinguished editorship of Dr. Narendranath Law, who, by his valuable historical publications, has placed the students of India's past under a great obligation.

The Journal contains numerous valuable and interesting articles contributed by distinguished writers. In his article "Rama Raya, Regent of Vijayanagar", Professor Heras, that indefatigable student of Indian History, throws fresh light on the history of the "Never-to-be-forgotten Empire". The 'Bhasa Problem' differently discussed by three gentlemen deserves careful perusal. There are several other interesting articles, which contribute to the accumulated knowledge of Indian History.

The Journal aims at a high standard of excellence and deserves to be in the hands of every student of Indian History. The get-up of the Journal is very good.

S. M. S.

List of Subscriptions and Donations received during the Quarter ending 30th June 1925.

Names.	Volume.	Amount.	
		RS.	A. P.
Messrs.			
Aga Abbas Ali Saib, Bangalore ..	XIII	5	0 0
Pranatharthi Hara Aiyer, Bangalore ..	XIV	5	0 0
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Goethel's Indian Library, Calcutta	XV & I (New Series) (part)	5	0 0
W. E. Clifford, Bhadravati ..	XV, I to IV (New Series)	15	0 0
N. Seshadri, Shimoga ..	XV	2	0 0
P. S. Lakshmi Narasu, Bangalore ..	XV (part)	2	8 0
K. Matthan, Bangalore ..	XV	5	0 0
Alfred Hayes, Bangalore ..	XV	5	0 0
M. G. Krishnasami Rao, Bangalore ..	XIV	5	0 0
B. V. Ramaiengar, Bangalore ..	XV	5	0 0
K. Ramaswamiengar, Bangalore ..	"	5	0 0
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S. A. Ramaswamy Iyer, Bangalore ..	"	5	0 0
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H. S. Govinda Rao, Chennapatna ..	"	3	0 0
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Somasundara Desikar, Nannilam ..	"	3	0 0
K. Chandy, Bangalore	Life-Membership Donation	100	0 0
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Adyar Library, Madras ..	"	3	4 0
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P. Narayana Menon, Ernakulam ..	"	3	4 0
H. Allardice, Chikmagalur ..	"	3	4 0
University Library, Bombay ..	"	3	4 0
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C. R. T. Congreve, Valapuri ..	"	3	4 0

Names.	Volume.	Amount.
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K. R. Srinivasa Iyengar, Bangalore		25 0 0
	Part Payment Donation	30 0 0

Books presented or purchased during the Quarter ending 30th June 1925.

Presented by.—

Rajasabhabhushana Rev. Father A. M. Tabard, M.A., M.R.A.S., M.B.E.—

1. Du Brahmanisme, by Mgr. Fr. LAouenan, Tome 1 and 2.
2. The Life or Legend of Gaudama, by the Rt. Rev. P. Bigandet.
3. Ancient India, by E. G. Rapson.
4. Indian and the Apostle Thomas, by A. E. Medlycott.
5. Les Royaumes De L'Inde, by Louis Rousselet.
6. Hindu Manners, Customs and Ceremonies, by the Abbe J. A. Dubois.
 Edited by Henry K. Beauchamp, C.I.E.
7. The Faith of Islam, by Rev. E. Sell, D.D., M.R.A.S.
8. Ancient Indian Historical Tradition, by F. E. Pargiter, M.A.
9. South Indian Shrines, by P. V. Jagadisa Ayyar.
10. Pickings from the Old Indian Books. Published by
 Messrs. Higginbotham & Co.
11. St. Thomas, The Apostle in India, by F. A. D'Cruz, K.S.G.
12. Mysore and Coorg from the Inscriptions, by B. L. Rice.
13. The Early History of India, by V. A. Smith.
14. Introduction to the Message of the 20th Century, by P. N. Goud.
15. The Last Siege of Seringapatam, by E. W. Thompson.
16. Choix Des Letters Edifiantes (Missions De L'Inde).
17. Annual Reports of the Mysore Archæological Department, 1919, 1920,
 1921, 1922, 1923.
18. Do. one bound volume for, the years 1920 to 1922.
19. Kempe Gowda Chiefs, by Rev. A. M. Tabard.

Mr. A. K. Pisharoty.—

Bhasa's Works, by A. K. Pisharoty.

Rao Bahadur Sarat Chandra Roy.—

The Birhors, a little known Jungle Tribe of Chotanagpur, by S. C. Roy.

Mr. T. R. Sesha Iyengar.—

Dravidian India, by T. R. Sesha Iyengar.

Mr. S. G. Sastry, B.A., M.Sc.—

The Times History of the War, 1914, Volumes 1, 2, 3, 4, 5 and 6.

The Government of Burma.—

	District	Volume	A.	Number	
1. Burma Gazetteer, Kyaukse					
2. " Sagaing	"	"	B.		33
3. " Katha	"	"	B.	"	30
4. " Myitkyina & Ptas	"	"	B.		
5. " Mandalay	"	"	B.	"	27
6. " Magwe	"	"	B.	"	25
7. " Upper Chindwin	"	"	B.	"	35
8. " Tavoy	"	"	B.	"	26
9. Census Tables—Karenni States				"	43
10. " Northern Shan States				"	4
11. Report of the Superintendent, Archæological Survey, Burma, for the year ending 31st March 1924.					

The Government of India.—

1. Catalogue of the Bengali and Assamese Manuscripts in the Library of the India Office, by J. F. Blumhardt.
2. Catalogue of the Oriya Manuscripts in India Office, by J. F. Blumhardt.

The Government Epigraphist for India.—

Memoirs of the Archæological Survey of India Series, No. 13, Kannada Poets mentioned in Inscriptions, by T. T. Sharman.

The Smithsonian Institution, Washington.—

1. Two Chaco Canyon Pit Houses, by N. M. Judd.
2. The Use of Idols in Hopi Worship, by J. W. Fewkes.
3. The Shake Religion of Puget Sound, by T. T. Waterman.
4. The Collections of Old World Archæology in the United States National Museum, by I. M. Casanowicz.
5. Report of the Secretary of the Smithsonian Institution, 1924.

The Government of Madras.—

Annual Report on South Indian Epigraphy for the year ending 31st March 1924.

The Government of the Punjab.—

1. Report on the Working of District Boards in the Punjab during the year 1923—24.
2. Report on the Workings of Municipalities in the Punjab during the year 1923—24.

The Director of Archæological Researches in Mysore.—

Annual Report of the Mysore Archæological Department for the year 1924.

The Government of Mysore.—

1. Annual Report of the Mysore Archæological Department for the year 1924.
2. Report on the Co-operative Societies in Mysore, 1923—24.
3. A Brief Report of Work done in the Experimental (Silk) Rearing Section at Mysore during 1923—24.
4. Revenue Administration Report for 1923—24.
5. Report on the Working of the Income-Tax Department, Mysore, during 1923—24.
6. Administration Report of the Excise Department for 1923—24.
7. Do. of the Electrical Department for 1923—24.
8. Proceedings of the Mysore Legislative Council during June 1924 and July 1924.

University of Calcutta.—

Journal of the Department of Letters, Vol. XII (1925).

The Editor, Karnataka Granthamala, Mysore.—

Retreat of the Ten Thousand in Kannada.

EXCHANGES.

I. The Editors of :—

1. "HINDUSTAN REVIEW," P.O. Box No. 2139, Calcutta.
2. "INDIAN ANTIQUARY," British India Press, Mazagaon, Bombay.
3. "CEYLON ANTIQUARY," The "Times of Ceylon", Colombo.
4. "MODERN REVIEW," 91, Upper Circular Road, Calcutta.
5. "THE HINDU MESSAGE," Srirangam.
6. "WEDNESDAY REVIEW," Teppakulam, Trichinopoly.
7. "THE SOUTH INDIAN RESEARCH," Vepery, Madras.
8. "THE EASTERN BUDDHIST", The Library, Sinshu
Otani University, Kyoto.
9. "THE CHRISTIAN COLLEGE MAGAZINE," Madras.
10. "THE EDUCATIONAL REVIEW," Mount Road, Madras.
11. "THE VEDIC MAGAZINE," Gurudatta Bhavan, Lahore.
12. "ZEITSCHRIFT DER DEUTSCHEN MORGENLANDIS-
CHEN GESELLSCHAFT," Halle, Germany.
13. "THE SANSKRIT BHARATHI," Burdwan, Bengal.
14. "THE JOURNAL OF THE AMERICAN ORIENTAL
SOCIETY," New Haven, Connecticut, U. S. A.
15. "THE KALPAKA," Tinnevely.
16. "EVERYMAN'S REVIEW," Madras.
17. "MAN," The Royal Anthropological Institute, London.
18. "DJAWA," Kanarillaan, 13, te Weltevreden, Java.
19. "MAN IN INDIA," Ranchi, B.N.Ry. (India).
20. "THE KARNATAKA GRANTHAMALA," Mysore.
21. "THE MYSORE CHRONICLE," Tumkur.
22. "THE JAIN GAZETTE", Parish Venkatachala Iyer Street,
George Town, Madras.
23. "THE INDIAN SOCIAL REFORMER," Navsari Chambers,
Outram Road (opposite Hornby Road), Fort, Bombay.
24. "PRABUDDHA BHARATA, ADWAITA ASRAMA,"
Mayavati P.O., Almora Dist.
25. "THE SHAMA'A," Aghore Mandir, San Thome, Madras.
26. "VISHVA-BHARATHI," 10, Cornwallis Street, Calcutta.
27. "NAVASHAKTI," Dharwar.

28. "THE SHRINE OF WISDOM," *The Hermetic Truth Society,*
Lincoln House, Acacia Road, Acton, London (21-3).
29. "WELFARE," 91, *Upper Circular Road, Calcutta.*
30. "MYSORE BLUE BOOK AND PUBLICITY JOURNAL,"
Bangalore.
31. "BUDDHIST ANNUAL OF CEYLON," *Colombo.*
32. "KARNATAKA SAHITYA PARISHATPATRIKA," *Bangalore.*
33. "EPIGRAPHIA INDO-MOSLEMICA," *Simla.*
34. "YOGAMIMANSA," *Kunjavana, Lonavla, Bombay.*
35. "THE LITERARY REVIEW," *Nagpur City.*
36. "THE MYSORE GAZETTE," *Librarian, Public Offices,*
Bangalore.
37. "PRABUDDHA KARNATAKA," *Karnatakasangha, Central*
College, Bangalore.
38. "INDIAN STORY TELLER," 164, *Cornwallis Street, Calcutta.*
39. "THE GUARDIAN," 86, *College Street, Calcutta.*
40. "THE YOUNG MEN OF INDIA," 5, *Russel Street, Calcutta.*
41. "THE PREMA," *Tungabhadra P.O.*
42. "AL-KALAM," *Bangalore.*
43. "VRITTANTA PATRIKA," *Mysore.*
44. "MYSORE CO-OPERATIVE JOURNAL,"
No 1, 1st. Road, Chamarajapet, Bangalore City.
45. "INDIAN HISTORICAL QUARTERLY,"
101, Mechnabazar Street, Calcutta.
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EARLY RELATIONS BETWEEN VIJAYANAGARA AND PORTUGAL.

BY REV. H. HERAS, S.J., M.A.

I.—The First Portuguese Account of Vijayanagara.

WHEN Vasco de Gama, after his first voyage to India, returned to Portugal by the middle of September of 1499, Dom Manuel, the Portuguese Sovereign, was highly amazed at Vasco's narrative. This event made a thorough revolution in the European commerce; the route for trading with India was already known. Hence in the following year 1500, Pedro Alvares Cabral was appointed by Dom Manuel as the commander of the Portuguese fleet, destined to establish a factory at Calicut, one of Vasco de Gama's ports of call. The expedition reached it by the end of August of the same year.

Cabral spent six months only on the shores of Malabar, for he started on his voyage home by the end of January, 1501. But in such a short time he fully experienced the treacherous conduct of the Zamorin of Calicut as well as the friendship of both the Rajas of Cochin and Cananor. During his short turbulent stay at Calicut, the first notice of the Empire of Vijayanagara apparently reached the ears of the Portuguese. Neither Castanheda nor Fariay Sousa relates this fact, but fortunately the anonymous pilot of Cabral took down in his diary the information he gathered about the Hindu Empire. The Tuluva Dynasty had been just then inaugurated.

This pilot's diary was lately published by Jaime Cortesão, as an appendix to his history of Cabral's expedition. I am going to give here a full translation of the chapter referring to Vijayanagara. No historical information is given in it. Only some customs of the king and his subjects are there recorded. It runs as follows:—

“Chapter XVI.

“About the King of Narsinga and the great number of his wives, and how all of them burnt themselves alive after the king's demise; about his elephants. . .

“On the mountains of this country there is a king, very great and powerful, who styles himself the King of Narsinga¹; his subjects are heathen. He has two or three hundred wives. When he dies his body is burnt up along with all his wives. In the same way, whenever any married person (man) dies, they dig up a large pit, and they (the wives) dance for a while around it, as the crabs do, till they throw themselves into the blazing pit. Their relations stay near and have vessels of oil (ghee) and butter in readiness. As soon as they jump into the fire the latter throw those substances upon them in order to hasten their cremation. In this kingdom there are many horses and elephants; they are used in the wars. They are so marvellously tamed that they do everything excepting talking; they understand everything like persons, as we saw at Calicut. The riding elephants of the king are the strongest and wildest animals of the world, so much so that two of them drag along a ship to the sea-shore.”²

This slight information on the great Hindu Empire, gathered most likely from the Mussalmans of Calicut, was no doubt the cause of a great enthusiasm and curiosity among the enterprising Portuguese to know and trade with that rich and mysterious country. Vijayanagara was to be the main field of their commerce in the sixteenth century. But their dealings with it were not to be started till the time of Dom Francisco de Almeida.

II.—Dealings with the Petty Chief of Honavar.

In the beginning of March, 1505, Dom Francisco de Almeida was appointed Governor of the Portuguese forces and possessions in India and by the middle of the same year his fleet of eight vessels was already on the shores of the Arabian Ocean. After erecting a fort in the island of Anjediva, Almeida received there an ambassador of the petty chief of Honavar, styled always by the Portuguese the King of Onor. His name was Merlao (Male Rao). He paid an annual tribute to the Emperor of Vijayanagara. Fernão

1 The ruling sovereign was then Narasa Nāyaka, called sometimes Narasinha.

2 Cortesão, *A Expedição de Pedro Alvares Cabral e o Descobrimento do Brasil*, p. 228, (Lisbon, 1922).

Lopes de Castanheda, who gives this information in his *Historia do Descobrimento & Conquista da India pelos Portugueses*, says that this Merlao was the lord of the city of Onor only. This city was built by the side of a creek in which there was a great deal of traffic between the Mussalmans and Hindus of the country and the Malayalams. Among the subjects of the chief of Honavar was at this time one Timoja, the owner of a good fleet and a pirate by profession. Castanheda tells us that he paid an annual tribute of four thousand cruzados to Merlao. Danvers calls Timoja the commander of the Vijayanagara fleet.³

Both Merlao and Timoja were represented by the anonymous Ambassador who reached Anjediva by the end of 1505. He informed the Portuguese Governor that those two chieftains were desirous of establishing peace with the Portuguese and offered him a present of eatables. Dom Francisco willingly accepted the proposition of Merlao, and peace was accordingly brought about between both powers.⁴

But it happened after some days that some Portuguese soldiers left nine horses on the shore near the city of Honavar, as they were unable at the time to carry them to Anjediva on account of stormy weather. When they returned to fetch them, no horses were to be found. They had been taken by the chief of Honavar himself. Almeida then sent a message to Merlao, asking for the horses, warning him that in case of refusal he would consider the recent peace to be broken. Merlao replied that the horses were not in his possession any more, but he would pay the cost of them to the Governor. Vainly did Almeida wait several days and then advance with his fleet against Honavar. According to Castanheda many merchant ships were then anchored in the river, and both the merchants and the inhabitants of the town forced their chief to pay the promised amount, but Merlao answered that they themselves had to pay that amount to the Governor. Thus the city would not be stormed.

Finally Almeida ordered the attack of the town. Merlao had fled to a neighbouring hill, from which he saw his town ablaze as the result of the Portuguese assault. He then despatched some new contingents that were around him to reinforce the troops already engaged with the enemy.

Both parties fought with incredible courage. But the Portuguese burnt a great part of the town and fourteen ships which they found there. When they again retired to their ships, twenty-two soldiers of Merlao were killed and a number wounded, while one only of the Portuguese was killed. Almeida himself was wounded by an arrow in his left foot, but the wound was soon healed.

³ Danvers, *Report*, p. 4.

⁴ Castanheda, *Historia*, pp. 235-36 (Coimbra, 1924).

That expedition proved eminently successful. Merlao after realizing the disaster that befell his capital, sent two Mussalmans to the Portuguese Governor, promising him to pay the price of the horses in question at once, besides an annual tribute as the vassal of the King of Portugal.⁵

This was the first encounter of the Portuguese with one of the tributary chiefs of Vijayanagara.

III.—Narasimha's Embassy to the Portuguese Governor.

When, at the end of the year 1505, Dom Francisco de Almeida arrived at Cananor, Gonçalo Gil, who was in charge of the factory established there, announced to him that an ambassador of the Emperor of Vijayanagara had been waiting for him for several days. His wish was to speak with the Governor on the following day. Almeida was pleased with this news, and all the fidalgos and captains of the fleet, in consideration of the power and riches of the Sovereign of Vijayanagara as well as of the authority of their own king, whose representative Dom Francisco de Almeida was, determined that the latter should in future be styled *Viceroy* and addressed *His Lordship*.⁵

The reception of the Ambassador, whose name I have hitherto been unable to find, took place in the ship of Dom Francisco. A dais was erected on deck, and a rich canopy put over it. The Viceroy in rich attire was surrounded by all the fidalgos, captains, and nobles of the fleet, among whom there was his own son. As soon as the Ambassador reached the ship, all the cannons of the fleet fired salutes. "The Ambassador and his retinue were extremely frightened at that tremendous noise." And when he entered the ship they played on trumpets and drums.

The Viceroy came down from the dais to receive him and begged him to sit down on a chair of equal distinction as his own. Then the Ambassador told the Viceroy the message from his sovereign. According to Castanheda he said that "the King of Narsinga (Vijayanagara) believed that our faith was true on account of our success against the powerful King of Calicut and other kings defeated by us. This was the cause of his desire of becoming a friend of the King of Portugal, whom he volunteered to help with a numerous fleet. He would, moreover, allow him to build forts in his own ports, excepting Baticala (Bhatkal), which was rented, and he would furnish everything necessary for the erection of these forts. Finally, in order to strengthen his friendship, he offered his only sister in marriage to the Prince, his son, of which union he would be extremely glad." After having told the Viceroy all these things, he gave him a letter for the King of Portugal, in which he repeated all the above items. Besides he handed over to the Viceroy sundry necklaces of gold with precious stones, together with some rings and sumptuous clothes.

⁵ *Ibid.*, p. 241.

After this the Ambassador bade farewell to the Viceroy and returned to Cananor, from where he went back to Vijayanagara. ⁶

IV.—Fr. Luiz appointed Ambassador to Krishna Deva Raya by Affonso de Albuquerque.

No more dealings between Vijayanagara and Portugal are recorded till the Viceroyalty of Dom Affonso de Albuquerque. In 1510 the Viceroy had again attacked Calicut and suffered a tremendous defeat. The Marshal, Dom Fernando Coutinho with several fidalgos were killed while Albuquerque himself received two wounds in his shoulder. The Viceroy wanted to exact vengeance for this defeat, and in order to attain this he determined to ally himself with the Emperor of Vijayanagara, who was then the great Kṛṣṇa Dēva Rāya. Albuquerque's son Dom Bras, in his *Commentarios do Grande Affonso Dalboquerque*, informs us that there was no genuine friendship between this great sovereign and the Zamorin of Calicut. Hence Albuquerque planned a combined attack of the Vijayanagara army upon Calicut by land, while he himself would attack the city with his fleet.

Accordingly he selected one Fr. Luiz, a Franciscan Friar, to be his ambassador to Kṛṣṇa Dēva Rāya. The Viceroy gave Fr. Luiz the following instructions, carefully recorded in his work by the former's son :

"First, you will tell the King of Narsinga (Vijayanagara) that I am apprising him of my recent appointment as the Captain General of India, by the King of Portugal. Now, hoping that the old friendship that existed between his predecessors and our king would still continue, I am sending you there expressly to pay a visit to him and to offer him the service of the fleets of the king my Lord, because I know for certain that he would extremely like to do so, as he is always so grateful for the friendship, messages and offerings of the kings, his predecessors, which have been forwarded to him in Portugal.

"Inform him of the grandeur and power of the king my Lord and of the great fleets annually sent to India, and how its seas cannot be crossed without his warrant, and how the ships of those who run counter to it are captured together with all their cargoes of merchandise. Tell him, moreover, that he (the king of Portugal) orders me in his instructions to honour and support all the heathen kings of his country and those of Malabar, and forbids me to take their ships and merchandise. A further order is that I should destroy the Moors (Mussalmans), with whom I am continuously waging war like himself. Hence I desire to aid him with the fleet and forces

⁶ *Ibid.*, p. 249. The following extract from Sewell's "*Forgotten Empire*," p. 117, (London, 1900), shows the difference of his narrative from Castanheda's account: "At Cannanore the Viceroy's son, Lourenco, in 1506, received further information as to the state of the country (of Vijayanagara) from the Italian traveller Varthema, and in consequence of this Almeida asked King Nārāsa to allow him to erect a fortress at Bhatkal, but no answer was returned."

of the king my Lord at any time of need, and similarly I hope he will help me with men, towns, ports, and food and other commissariat supplies of his kingdom whenever necessary. Moreover, you will inform him that the ships *en route* to his ports will be safe on the Indian seas and honoured and supported by the fleets and fortresses of the king of Portugal.

“ Acquaint him with the destruction of Calicut, and that I am aware that its king is his arch enemy and desires to destroy him. Hence my order for you to notify him that his palace and city were burnt out, and his people slain, and all his artillery captured. And the Camorim (Zamorin) did not dare to succour the city, and remained in the mountains overlooking Calicut (in the boundaries of his kingdom), and only came down when he knew of our departure.

“ Tell him that my purpose is to capture the Camorim (Zamorin) and to send him to Portugal to the king my Lord. And this will not be a difficult enterprise, if he (the Vijayanagara King) comes with his armies against the mountains of Calicut, where the Camorim (Zamorin) takes refuge whenever he is attacked from the sea. Now, when he (the Vijayanagara King) enters the passes of the mountains, I shall go with a big fleet along the sea-shore, destroying all his ports and towns, in such a way that the Camorim (Zamorin) will not be able to relieve all these places at the same time and we shall infallibly capture him. Then we shall banish the Moors (Mussalmans) from Calicut : they give him all money necessary for making war., Thus by their banishment, his ports will have no trade any more and be destroyed. After this I shall be ready to operate against Goa, and there I shall help the King of Narsinga against the Sovereign of the Deccan, and his trade in horses will come to an end. This is a very important matter, because with the horses imported into his kingdom he wages war against the King of Narasinga (Vijayanagara).

“ Tell him that Ormuz belongs to the king my Lord. Now, if he wishes to be his friend and sends his ambassadors to Portugal to pay a visit to the king and to offer him presents, which will be a sign of true friendship, the king will send him many things that exist in his kingdom. Moreover, tell him that the horses from Ormuz are landed only at Baticala (Bhatkal), or any other port of his kingdom where he might acquire them, and that they will not go to the King of the Deccan any more, because this is a Moor (Mussalman) and our king's enemy besides. And in order to strengthen our friendship, tell him that in case he comes to this country with his army I myself shall go to see him and arrange with him many particulars of our joint action. Again I remind you that one most important item of business is that the King of Narsinga (Vijayanagara) should send his ambassadors to Portugal

in order to pay a visit to our sovereign and offer him jewels and other things of his country.

“Point out to him that, in case the king my Lord should think it serviceable to establish a factory in any of his ports from Baticala (Bhatkal) to Mangalore, it should be for the King of Narsinga (Vijayanagara) to admit our king’s land and sea forces into such port and to grant a site for a fortified house (*sic*), in view of the safe storage of merchandise and the defence of our people against eventual popular risings. Such precautions seem necessary, because these places are so far (from the capital), and the officers of justice cannot go there in time to calm the multitude. Now, if he (the King of Vijayanagara) consents to all the articles of this agreement, the horses which we shall get will be all for him, as well as all other needful kinds of merchandise coming from Portugal.”

Albuquerque’s wishes were never fulfilled entirely. We heard of no embassy of any Emperor of Vijayanagara to the King of Portugal himself. The combined attack upon Calicut was never realized either, nor did Albuquerque himself help the Vijayanagara Emperor in the re-conquest of Goa from the possession of the Sultan of Bijapur. Just the contrary, as we shall see later on, he conquered Goa for himself with the aid of one of the subjects of Kṛishṇa Dēva Rāya.

After receiving these instructions, Fr. Luiz embarked in Cochim (Cochin) for Baticala (Bhatkal), from where he went to Vijayanagara by land.⁷

We have no information at all about the stay of Fr. Luiz at Vijayanagara, nor about his official dealings with the Hindu Sovereign. It seems that he invited Kṛishṇa Dēva Rāya to become a Christian and the sovereign gave no negative answer to the priest’s request. In an anonymous letter of a traveller written in Venice to *ser Zuane di Santi*, dated November 10th, 1511, and kept in the *Biblioteca Magliabecchina* of Florence, it is stated “that the King Narsinga (the King of Vijayanagara) was very near becoming a Christian”.⁸

Frey Luiz remained in Vijayanagara and was at length murdered in 1511 by a Turk. The crime was finally attributed to the Sultan of Bijapur.⁹ Albuquerque gives this piece of news to his sovereign in a letter of April 1st, 1516, as follows: “At Bisnagar (Vijayanagara) one Rume (Turk) murdered Frey Luiz: there is nothing extraordinary in this event.”¹⁰ Most likely the murder was committed to prevent the pourparlers from taking place between Kṛishṇa Dēva Rāya and the Franciscan Friar about the trade in horses.

⁷ *Commentarios do Grande Affonso Dalboquerque Capitaõ Geral que foy das Indias Orientaes em tempo do muito poderoso Rey D. Manuel o primeiro deste nome*, II, pp. 90-95 (Lisbon, 1774).

⁸ *Gubernatis, Storia dei Viaggiatori Italiani nelle Indie Orientali*, pp. 383-84 (Livorno, 1875).

⁹ *Commentarios*, III, p. 46.

¹⁰ Costa, *Historia das Relações Diplomáticas de Portugal no Oriente*, p. 32 (Lisbon, 1895).

V.—Albuquerque conquers Goa with the aid of Timoja.

The Portuguese Viceroy in his instructions to Fr. Luiz says that his sovereign had ordered him to wage continuous war against the Mussalmans. Accordingly in the beginning of the year 1510, the Viceroy had decided to start for the Red Sea. He was preparing his fleet in the island of Anjediva, when Timoja, the so-called commander of the Vijayanagara fleet, came out in a pinnace to ask Albuquerque what those preparations were for. The Viceroy answered he was intending to go to the Red Sea, to fight against the army of the Sultan of Egypt, which had been partly defeated by his predecessor Dom Francisco de Almeida. Timoja advised him not to go so far as the Turks were very near, and then he informed the Viceroy how one of the ships that escaped from the defeat inflicted by Almeida on the Turkish army had taken refuge in the harbour of Goa, where he had been very well received by the Çabaio (the Sultan of Bijapur), because among the crew there were several carpenters and calkers who had already built some ships like the Portuguese ones for the Sultan of Bijapur. According to the information given by Timoja, this Turkish captain had written to his Sultan demanding more ships and soldiers, in order to continue the war against the Portuguese. For he expected to establish a naval basis in the harbour of Goa, and from there to chase the Portuguese ships till they would be thoroughly expelled from the Arabian Sea. Moreover, Timoja added that the occasion was the best for capturing Goa without much resistance, for the Çabaio (Yusuf Adil Shah) had died just then, being succeeded by his son Ismail Adil Shah. The latter being very young, a Regent was ruling the kingdom, not without dissensions among the nobles. Goa especially was then without garrison enough to defend the town against such a powerful fleet and army as the Portuguese had.

Such was the information given by Timoja to the Portuguese Viceroy. Albuquerque promised to consider the plan with his captains. They liked it, but before starting the operations they desired a little more information. Nevertheless the fleet started for the north, and when before the fortress of Tintacorā (Karwar) they again met Timoja, who was coming back from Ionavar. Albuquerque through his interpreter, Gaspar Rodriguez, asked him whether he had any new information about Goa. Timoja replied that he had been made aware by some Hindus in Goa, that the death of the Sultan of Bijapur was a fact and that the Governor of Goa, named Melique ufurgugi (Malik Yusuf-gurgij), was a man of strange character, so much so that the thousand soldiers of his garrison were disgusted with his stingy treatment and were nearly starving. Moreover, there were many differences among the inhabitants of Goa, and several Hindus of the town had written proposing to him the conquest of Goa. He himself alone, however, was not

able to carry out that undertaking, but he was ready to help the Portuguese fleet with his pinnaces and men, and he would send a strong contingent of his army to attack the city by land. Albuquerque and his captains approved the plan.

Accordingly, Timoja's men went up by land and fell upon the fortress of Çintacorā (Karwar), situated on the banks of a river separating the Kingdom of Honavar from that of Goa. At the same time, Albuquerque with his fleet was proceeding northwards and anchored before the river of Goa. But before advancing up the river, the Viceroy sent his nephew Dom Antonio de Noronha in command of some boats to take soundings. When these arrived before the fortress of Pangim, the Mussalman garrison opened fire upon them, but without effect, as their guns were trained too high. The Portuguese thereupon landed and rushed the fort with such a vigour that they drove out all the Mussalmans, who fled towards Goa. In the meanwhile, Timoja intended to attack the bulwark situated on the opposite bank of the river—most likely where now stands the fortress of Reis Magos—but on arrival there it was found to have been neglected.

Upon this happy event and with the assurance that the river was deep enough for his ships, Albuquerque advanced up to the front of the city on the following morning. There he received a deputation of several influential residents of the town, headed by one Mirale (Mir Ali), with a message from the captains and inhabitants of the city, offering to surrender the place and to become vassals of the King of Portugal. Albuquerque sent back the messengers with a reply that he would assure the inhabitants of the lives and treat them with every consideration under condition that the fortress would be surrendered to him together with all the Turks of the city. The Viceroy set out at once and crossing the bar came up with all his force in front of the fort. On the 17th of February Albuquerque accompanied by his army entered the city receiving the keys of the fortress from the Governor and chief inhabitants. Thus Affonso de Albuquerque conquered the city of Goa with the help of a subject of the Emperor of Vijayanagara.¹¹

VI.—Some Dealings of Albuquerque with the Petty Chiefs of Kanara.

After this conquest, Albuquerque signed a treaty of peace with one of the petty states of the Kanara Coast, that of Baticala (Bhatkal). It seems that there was not a chief in this State, at this time at least, for Albuquerque's son mentions only '*os regidores*', the governors. Was there perhaps a kind of representative government in Bhatkal?

By one of the terms of this treaty of peace Albuquerque settled the foundation of the first Portuguese factory on the Kanara Coast. This and

¹¹ *Commentarios*, pp. 100-14; Faria y Sousa, *Asia Portuguesa*, I, pp. 134-7.

the others established later on had to be the main source of revenue for the Portuguese in India. When they were lost to them their power waned soon. "The governors '*os regidores*'," said the treaty, "should give him a house made of stone and lime at their own expense, in which the manager on behalf of the King of Portugal should be able to store his merchandise safely. Besides they should give an annual tribute of two thousand bales of rice." ¹²

At the same time another treaty of peace and alliance was drawn up between Albuquerque and the King of Gersoppa. The latter promised to help the Portuguese in their attempt to re-conquer Goa, but on the occasion he did not fulfil his promise. ¹³

This and other defections seem to have discouraged the great Viceroy. In a letter of April 1st, 1512, addressed to his Monarch Dom Manoel, Albuquerque shows some signs of this discouragement: "Batecala (Bhatkal)," says he, "pays two thousand bales as tribute to Your Majesty, and the people show themselves obedient to all your commands.....The King of Onor (Honavar) pays more than one thousand pardaos of tribute to Your Majesty, and at the same time he gives his help to the Sabayo (the Bijapur Sultan) against us, and has always the latter's ambassadors at his own court.....The King of Narsyngua (Vijayanagara) has peace and friendship with Your Majesty, and he also helps the Sabayo (the Bijapur Sultan) against us." ¹⁴

VII.—Dealings between Vijayanagara and Albuquerque.

After the conquest of Goa, Kṛishṇa Dēva Rāya despatched an embassy to Goa to obtain from Albuquerque all the horses that might come to Goa from Ormuz and Arabia. These horses went hitherto to the army of Bijapur as soon as they arrived at Goa. The Vijayanagara Sovereign wanted to take advantage of the conquest of Goa to get all these horses for his army according to the promise of Albuquerque himself communicated to him through Frey Luiz. But Albuquerque on this occasion gave no definite reply.

The ambassadors on returning to Vijayanagara told their sovereign besides that Albuquerque was in correspondence with the Sultan of Bijapur. Kṛishṇa Dēva Rāya, fearing that Albuquerque was going to send the horses to his mortal enemy, despatched at once new ambassadors to Goa with decisive instructions. After receiving these new ambassadors, Albuquerque sent to Vijayanagara one Gaspar Chanoca, who came back to Goa accompanied by another ambassador of Kṛishṇa Rāya with a present for the King Dom Manoel. ¹⁵

Albuquerque's son does not give any further information about Chanoca's embassy to Vijayanagara. But in the letter of Albuquerque

¹² *Ibid.*, II, pp. 164-66.

¹³ *Ibid.*, III, pp. 2-7.

¹⁴ Costa, l. c.

¹⁵ *Commentarios*, III, pp. 41-46; 270.

mentioned above it is said that he was in charge of a convoy of horses for the Hindu Emperor. "I sent Gaspar Chanoca with horses to the King of Narsyngua", says Albuquerque, "whom I informed that Your Highness ordered me to capture Goa, in order to help him against the Moors (Mussalmans) and specially against the Sabayo (the Bijapur Sultan)... .. Moreover, I offered him my aid in case he would like to conquer the Kingdom of Aqem."¹⁶

VIII.—The Great Embassy of Vijayanagara under Radalingam Chetti.

Kṛishṇa Dēva Rāya was not satisfied with this. He wanted the monopoly of the horses, and in order to obtain this, he despatched to Goa one Retelim Cherim (Radalingam Chetti), Governor of Bracelor (Barcelor), "who was the chief noble of his court and a great favourite of his", according to Albuquerque's son. He arrived at Goa in November, 1514, accompanied by a considerable retinue of servants. The Viceroy on hearing of his approach sent Pero Mascarenhas, Captain of the fortress, at the head of an escort of cavalry, to receive him outside the city walls. The Ambassador was surrounded by many horsemen and a detachment of foot soldiers under a captain and was preceded by four big elephants richly caparisoned and surmounted with wooden howdas. These elephants were ridden by Hindus, who carried golden basins filled up with pearls, jewels, precious stones, and other rich articles of their country for presentation to the Viceroy.

Albuquerque was waiting for him in one of the halls of his palace, which was the old palace of the Sultan of Bijapur; he was seated on an arm chair of red velvet, under a canopy of brocade. All the captains, nobles and leading citizens of Goa were standing alongside the walls. As soon as the Ambassador entered the room, Albuquerque went down from his dais to receive him in the middle of the hall. Then both went back to the dais, and still standing the Ambassador presented the Viceroy with the presents of his Sovereign, as also the credential letters from Kṛishṇa Dēva Rāya, by whom he himself was appointed his ambassador. After this Radalingam Chetti retired, and Albuquerque promised to read the letter of that great monarch.

On the following day, the Ambassador was again called to the palace of the Viceroy. Kṛishṇa Dēva Rāya was telling him in the credentials that the Ambassador himself would propose to him the business for which he had been sent to Goa. "The Ambassador answered", continues Albuquerque's son, "that the King of Narsinga (Vijayanagara) still wished to continue his friendship with the King of Portugal; hence on knowing of the differences that existed between him and the Hidalcão (the Sultan of Bijapur) had decided to wage war against the latter. Therefore, if the Viceroy also adhered to his former purpose, he wished to have certitude about it in view of their

concerted action in the war. Thus we shall be able to destroy him with very little effort." The Ambassador spoke once again of the supply of horses and of the delay of his sovereign in joining Albuquerque in his war against Bijapur. Albuquerque replied in a very few words that he would consider all this and would give an early reply.

Radalingam Chetti informed Kṛishṇa Dēva Rāya of this answer. The sovereign waited for a while and when he realized that Albuquerque was quiet at Goa, and no preparations for an immediate war were to be seen, he suspected that the Viceroy was in secret communication with his enemy of Bijapur. Accordingly he sent a new message to his Ambassador and ordered him to stir the Viceroy to action by announcing to him that he was already marching his army against Bijapur. The Ambassador did so, which finally moved the Viceroy to send back the Ambassador to Vijayanagara along with Antonio de Sousa and João Teixeira, with a small detachment, in order to settle this alliance. One of the points mentioned in their instructions was that he would willingly aid him in his war against Bijapur, but his soldiers had to be paid fully by the King of Vijayanagara himself. As to the supply of horses, he was ready to hand them over to the Vijayanagara Sovereign at the price of thirty thousand cruzados per year, under condition that he would take delivery of them in Goa. Besides, he sent to Kṛishṇa Dēva Rāya a rich present of different kinds of fabrics partly come from Ormuz and partly from Portugal itself.

The Sultan of Bijapur was made aware of all this intrigue of his rival of Vijayanagara in Goa, and as a counter bid he also sent an embassy to Albuquerque. But it was of no effect. The Viceroy preferred the friendship with the Hindu Empire. Hence he dismissed the Mussalman Ambassador with the promise of a reply at a later period since he was then in a hurry preparing his voyage to Ormuz.¹⁷

Such were the relations between Vijayanagara and Portugal till the end of the Viceroyalty of Affonso de Albuquerque. Those fostered by his successors will be narrated in my history of THE ARAVIDU DYNASTY OF VIJAYANAGARA, Vol. I, chapter IV.

MUNDAKOPANISHAD.

BY D. VENKATARAMIAH, ESQ., B.A., L.T.

FIRST PART.

First Section.

- *1. Om Brahma first among the Gods was born
Creators of the Mighty Universe
Preserver of all the created beings
And he to his first son Atharva spoke
The word of God from which all knowledge springs.
- †2. And that which Brahma taught Atharva
That Brahma lore, Atharva taught of yore
To Angir and he gave out to Satyavaha
Of Bharadvaja sept, to Angiras he
And so from elder to younger the knowledge came.
- ‡3. 'Twas Sounaka the reputed family chief
Betook himself to Angiras, a disciple true,

* Brahma here means Iswara the Creator—the first manifested being. How was the manifestation brought about? “स्वातंत्र्येण”—by power inherent; from no adventitious cause. The creative energy must, therefore, be inherent in the Absolute. The incidence of birth in the case of ordinary mortals depends upon their merits or demerits but not as regards Iswara.

Cp. योऽसावतीन्द्रियोऽग्राह्यः सूक्ष्मोऽव्यक्तः सनातनः ।
सर्वभूतमयोऽचिन्त्यः स एष स्वयमुद्भूतः ॥

He, who is beyond the range of the senses, incomprehensible, subtle, unmanifested, ancient, all-pervasive, unthinkable; such a one of *himself was born*.

† परावराम्—The teaching has been handed down from generation to generation. The phrase has also been interpreted to mean all comprehensive, including the knowledge of the highest and of the lowest. The last verse therefore means—Bharadvaja taught Angiras that knowledge which is both metaphysical and physical. For a correct understanding of the doctrine it is essential that one should learn at the feet of a Guru. Hence the importance of tradition.

‡ महाशालः—The founder of a tribe; patriarch.

विधिवदुपसन्नः—It is enjoined that the disciple should approach the teacher in a suppliant attitude carrying in his hand a bundle of twigs for the sacrificial fire.

The question put by Sounaka to Angiras amounts to this—Which is the central truth knowing which all else is understood; by which the diversity of the Universe can be explained.

And questioned thus—O Master adorable
What truth is that, teach me, perceiving which
All this our understanding comprehends.

- *4. Angiras spoke to him thuswise—The Seers
Declare, for sure, two sciences to be known,
Para, the higher and Aparā, the lower.
- †5. Of them the lower knowledge compasseth
The Vedas four—Rik, Yajus, Sama, Atharva ;
The six limbs of Vedas—Siksha, Kalpa, Vyakarana,
Likewise Nirukta, Chandas, Jyotisha ;
Then comes the higher science, that by which
Is understood the Being imperishable.
- ‡6. That Being lies beyond perception's range
Intangible and out of grosser reach
Untraceable and void of attributes
Eyeless, earless, sans hands, sans feet, eterne ;
All-manifesting, all-pervading, subtle,
Imperishable, great creative cause
And Him as all in all the wise perceive.
- §7. As the spider throws out its gossamer web
And back again withdraws and as from earth
Up spring the plants and in the living man
Hairs long and short do grow, e'en so from Him
The Eternal is begot the Universe.

* It should not be supposed that the answer is beside the point. True, Sounaka wants to know what it is by grasping which the riddle of existence can be solved. But before approaching the highest truth—the *Paravidya*, one ought to know the nature of diversity, all that constitutes the world and the various branches of Knowledge relating thereto—the *Aparavidya* ; for it is only by understanding the real significance of the latter that it is possible to comprehend the higher teaching.

† Each of the four Vedas has to be studied with the aid of the six auxiliary sciences known as '*shadangas*' which include:—शिक्षा—Phonetics ; व्याकरण—grammar ; छन्दस्—metrics ; निरुक्तं—etymology ; ज्योतिषं—astronomy ; कल्पः—ritual.

‡ The *Paravidya* is that by which is understood the Brahman here described.

§ The similes employed here are intended to indicate that the creative principle is in the Absolute only and that no external agency need be posited. (This is the idealistic doctrine of creation.) The material and efficient causes of the Universe are not different as in the case of ordinary products like the pot, etc., in other words Brahman is the sole cause. This is known as the theory of "अभिन्न निमित्तोपादानत्वं" in the systems of both Sankara and Ramanuja.

*8. From thought the Supreme Lord is filled with joy,
 From Him the primal matter takes its birth,
 The first embodied soul is thence begot,
 From this world-soul the cogitating mind,
 The elements five from mind; the worlds were then
 Ushered replete with acts and fruits thereof.

†9. Who in His omniscience perceives the whole
 Perceives the parts, whose penance is but thought;
 From Him, this Brahma first created Being
 Emerged, alike all names, all hues, all food.

* According to Advaita creation is an illusion and is the result of *avidya* or nescience. But the World of appearance is not something apart from Brahman. To connect the two the conditioned Brahman is postulated. It is from this limited Brahman that creation proceeds. The mantra sets forth the evolution thus :—

Brahman (elate with the thought of creation becomes Iswara)

↓
 Maya or primal matter which is अनादि and undifferentiated undergoes transformation to
 result in the complex World

↓
 Hiranyagarbha (प्राणः)

↓
 Mind

↓
 The Five Elements (सत्यं)

↓
 Worlds (Earth, etc.)

↓
 Works, according to different beings and different castes (races) and stages (cultural development)

↓
 Result or consequences.

† In order to clear any misapprehension regarding the meaning of 'penance' (तपस्) it is described as 'ज्ञानमय' of pure thought; Brahman is not to be supposed as performing penance in the ordinary sense. His penance is mere self-consciousness. Sankara says that there is no effort on His part in the act of creation. It is the superimposition of Maya or the Absolute that starts the creation beginning with Hiranyagarbha. The Advaita does not admit the doctrine of special creation.

The variety of the material Universe is reduced to a unity in the conception of Maya. Similarly the variety Jivas, is reduced to the unity of Hiranyagarbha or the cosmic soul. The opposition between Maya and the cosmic soul is transcended in Brahman. This truth is presented in the text in the reverse order.

Second Section.

- *1. What deeds the holy texts prescribe, what deeds
The sages have done and such as enjoined are
On priest and sacrificer and on him that chants,
All this is true and brings unfailing joys
On which intent pursue the law ; for that
Is the path to Swarga—land of happy souls.

(To be continued.)

* Having distinguished the two kinds of knowledge—*Apara* which embraces the Vedas, the sciences, etc., and *Para* by which is known the Absolute from whom proceed all names and forms, the Scripture then specifies what the pursuit of either kind of knowledge results in. The *Apara* has as its subject-matter *संसार*—mundane existence, the realm of means and ends, fit only to be avoided. Its cessation is salvation *मोक्ष*, which is the aim of *paravidya*, the higher knowledge and which is beginningless, endless, untouched by age, decay or destruction, self-subsistent, and supreme bliss.

To begin with, the nature of *aparavidya* is brought home, for it is only by a clear understanding of its nature that one is weaned from it. For the higher knowledge a thorough acquaintance of the objective world is a necessity. The Scripture says—*परीक्ष्यलोकान्कर्मचितान्*.....” Hence the text enjoins the observance of all those ritualistic practices laid down in the Vedas, the performance thereof is sure to bring in its train the hoped-for result. It is understood that the performance of Karma and for that matter all that is done in the pursuit of one's legitimate avocation brings on happiness but this is only the lower and not the lasting bliss. Still the result certain and this is the only path to its attainment.

“एष वः पन्थः सुकृतस्य लोके ॥ ”

THE BIRD AND SERPENT MYTH.

BY PROF. KALIPADA MITRA, M.A., B.L.

THE hero in the tale has tasted the bitters of a step-mother's hatred. His mother is dead. His father has suddenly changed. He is no longer kind. He knows not that the venom of his step-mother has steeled the heart of his father. He and his younger brother are led to the execution ground. But the heart of the executioner is softer than a vile woman's and the princes escape into the jungle.

A sigh of relief escapes the youthful listener. He follows his hero in his vision through pathless jungles and thorny ways, infested with fierce denizens of the wilderness, his heart heavy laden with grief at his hero's tribulations. Now he smiles and looks up, for has not his hero come to the tree where the prophetic birds yield him the secrets of his future happiness? The *Bihāṅgama* and *Bihāṅgamī*, gifted with speech, say "such and such things have to be done by the Prince and then will end all his miseries," or they talk in this wise:

The one :—"If any one eats me, he will be in possession of a diamond every day."

The other :—"If any one kills me and eats my heart, he will immediately become a king."

This is from a Bengali folklore.

The ancient *Jātakas* tell the same tale. The *Siri-Jātaka* ¹ and the *Nigrodha-Jātaka* ² are very much alike. Thus it runs: Towards morning one of the cocks who was roosting high let fall a dropping on the back of a bird below. "Who dropped that on me?" cried this one. "I did" cried the first. "And why?" "Didn't think," said the other and then it did again. Hereupon they both began to abuse each other, crying, "What power have you? What power have you?" At last the lower one said, "Anybody who kills me and eats my flesh roasted on the coals gets a thousand pieces of money in the morning." And the one above answered, "Pooh, pooh, don't boast about a little thing like that. Anybody who eats my fleshy parts will become king; if he eats my outside, he will become commander-in-chief or chief queen according as he is man or woman; if he eats the flesh by my bones, he will get the post of a royal treasurer, or if a holy man will become the king's favourite."

The stick-picker heard all this.....

So in the *Nigrodha-Jātaka*, "All this Pottika overheard."

1. No. 284, Vol. II, 280 (Cambridge Translation).

2. No. 445, Vol. IV, 24 (*Ibid.*).

It is presumed that both the stick-picker and Pottika knew the language of birds. It is not said here that the birds talked in human speech. It is to be noted here also that the eating of birds could make one king, queen, commander-in-chief and so forth.

We read in the *Mahābodhi-Jātaka* (No. 528)—“From his knowledge of the meaning of all sounds the Bodhisattva understood the matter and returned to the park.” Warning was given to him by the bark of a dog at the king’s palace, when the councillors of the king with sword in hand lay in wait to kill him.³

In the *Maccha-Jātaka* (No. 34) the priest (so *pana sabbarutaññu hoti*) came to the river to bathe. Now he understood the language of all animals. Therefore when he heard the fish’s lamentation, he said to himself, “This fish is lamenting the lament of passion.”⁴

In the *Parantapa-Jātaka* (No. 416) we read: When Bodhisattva grew up he learnt all the arts at *Takkasilā* and acquired a spell for the understanding of all animals’ cries. He understood the jackal’s speech and frustrated a she-jackal twice.

In the *Cullahamsa-Jātaka* (No. 533) the geese have, of course, a language of their own; but also talked to the hunter in human language. Animals talking with man in the latter’s language is a familiar feature of folklore.

In the *Kharaputta-Jātaka* (No. 386) we read that a *Nāga King* out of gratitude gave King Senaka a charm which when repeated could enable him to see a *Nāga* damsel presented to him by the *Nāga King* even when she made herself invisible. Subsequently, the *Nāga King* in order to make amends to Senaka gave him *sabbarutajānanamantaka* (charm to know language of all animals); but it was given on a condition: “*ayaṃ mahārājā āngghamanto sace imaṃ imaṃ mantam aññassa dadeyyāsidadvā va aggiṃ pavisitvā mareyyasi*” *ti* (i.e., if he imparted it to any one, he would have to enter the flames and quit his being). The charm enabled the king to learn the language of ants and flies, and he understood the conversation between a goat and his Sindh horse yoked to the chariot.

Thus in the *Jātaka* we find mention of (1) birds talking in human language, (2) birds talking in their own language but they are understood by men, and (3) man understanding the language not only of birds, but of all animals, such as fish, dogs, jackals, etc.

It will have been seen also that the spell of understanding the language of all animals was carefully taught as an art among many arts at the famous *University of Takkasilā* as magic was also taught there. It is, therefore, not surprising that we find many references to ‘bird-lore’ in Pāli literature, to

3. *Ibid.*, Vol. IV, p. 119.

4. *Ibid.*, Vol. I, p. 87.

which, however, it is not confined. In Jaina and Sanskrita literature also we notice allusions to it.

In the commentary on the *Brahmajālasutta* 5 we find mention of (a) *sivavijjā* which is variantly explained as ‘*sigālarutavijjāni pi vadanti*’ (i.e., the sound of jackals is also meant); (b) *vāyasavijjāti Kākarutañānam* or the knowledge of the sound of crows; (c) *sakunavijjāti sapakkhaka-apak-khaka dipadacatuṣpadānam rutagatādivasena sakunañānam* (the *sakunavidya* or the knowledge of birds and animals, with or without feathers, having two or four legs; by means of their voice and movements); (d) *migapakkhanti idam sabbasaṅgānikam sabbasakunacatuṣpadānam rutañānavasena vuttam* (i.e., it refers to the knowledge of the sound of all birds and quadrupeds). These arts, among others, are, however, condemned by the Buddha in the *Digha-nikāya Brahmajālasuttam* 6 as unworthy of monks, being low arts practised for gaining false livelihood (see para 21).

The Jainas similarly condemn the practice of these low arts, and of all magic. In the *Sūtrakṛtāṅga* (Lect. XV. The True Monk) the True Monk is “he who does not profess and live on divination from cuts and shreds... from sounds on earth or in the air... from the meaning of the cries of animals...” In the Jaina *Prākṛta Sūtrakṛtāṅga* 8 we read: “*taṃ jahā...sarammiyacakkaṃ* 9 *vāyasaparimaṇḍalam.....*” Here *saram* is explained by *Kākasvaram*, and corresponds to *Vāyasavijjā* of Pāli.

In the *Kauṭīliya's Arthaśāstram* 10 we read this passage: “*daivatapraśna-nimitta vā sāṅgavidyāh* (d. r. *vāyasāṅgavidyāh*) *svapnamṛgapakshivyāhāreshu cāsya vijayam brūyuh...*” Dr. Shamasastri gives the following translation of it on p. 476 of his English Translation: “Those who are well versed in horary and astrology and the science of omens should proclaim abroad that the conqueror is a successful expert in explaining the indications of dreams and in understanding the language of beasts and birds.” Whole chapters (e.g., chs. 88, 90 and 95) have been devoted by Varāhamihira in his *Brihatsamhitā* to the forebodings from the cries of birds, female jackals and crows. The knowledge of evil portents, e.g., by earthquake and notes of birds, is referred to in *Yājñavalkyasamhitā*. 11

5. Simon Hewavitarane's Ed. (Ceylon), p. 67.

6. See also *Milindapañho* (Williams and Norgate), p. 370: *Vatthuvijjāya vā Nakkhattavijjāya vā angavijjāya vā aññataraññatarena vā Buddhapatikutṭhena micchājīvena nipṇāḍita bhojanam na paribhūñjitabbaṃ*.

7. *S. B. E.*—Vol. XLV (by Jacobi), p. 69.

8. *Srimatsūtrakṛtāṅgam* (published from Mehesana).

9. i.e., *mṛgacakraṃ*, Pāli, *migacakkaṃ*; this agrees with the reading in D. N. (*P. T. S.*) *Brahmajālasuttam*. The Ceylonese Commentary (*op. cit.*) *Migapakkham*. The meaning, however, is the same.

10. By R. Shamasastri, p. 395.

11. C. 3, Sl. 131.

In the legends current in India we find frequent mention of such knowledge. "Then King Bikramājī went out and asked them in *birds' language* (for as every one knows Bikramājī understood both beasts and birds) why it was they ate nothing." ¹² Dr. W. Crooke observes ¹³: "We have again the very common incident in the folktales of animals understanding the speech of human beings and *vice versa*. Thus in Somadeva the Vaishya Bhāshājña knows the language of all beasts and birds, a faculty which in Germany is gained by *eating a white snake*." ¹⁴ The vizier of Sultan Mahmood pretended that he knew the art of understanding the language of birds, and explained to his sovereign the conversation of owls relating to the bargain of villages ruined by him!

One may object that what has been said above relates to divination proper, and does not indicate if the '*artists*' really understood the talk carried on between birds or animals. Whether the '*art*' really existed or not is no concern of mine. ¹⁵ I am concerned only with the existence of *popular belief that the language of animals could be understood*, and I am satisfied that *such popular belief did exist*.

Sigurd, the Volsung hero, kills dragon Fafner, cuts out its heart and roasts it over a fire. As the heart frizzles up, he lays his finger on the spot, lest the blood should come forth, and thrusts his finger in the mouth. When he does that *he at once understands the language of birds*.

One bird sang: "Why dost thou sit roasting the dragon's heart for another when thou shouldst eat it thyself and obtain great wisdom?"

Another sang: "Regin lies there with purpose in his heart to betray Sigurd."

A third sang: "Sigurd should slay Regin and possess all the treasure for himself."

Sigurd followed the advice of the birds, cut off the head of the wonder-smith, and ate a portion of Fafner's heart. ¹⁶

Similarly, Siegfried, the hero of the *Nibelungenlied* kills dragon Regin. He then "cooked pieces of the dragon's flesh, *so that he might receive a meed of its strength*. As he watched the flesh broiling, he tasted a portion to discover if it was ready. When he did that the forest was filled with magic voices, for *he could understand the language of birds*.

12. Flora Steel—*Tales of the Punjab* (1918), p. 269. cf. *Folk-Tales of Ceylon* (p. 70) (*Kākakathwa*).

13. *An Introduction to the Popular Religion and Folklore of Northern India* (Allahabad Edition, 1894), p. 316.

14. Towney: *Kathāsarisāgara*, I, 499; II, 276; Grimon, *Household Tales*, No. 33 (quoted *loc. cit.*: f. n.)

15. Notice the tricks employed by the king for political purposes. See Footnote on p. 476 of the English Translation, of *Kaut. Artha*.

16. Donald A. Mackenzie: *Teutonic Myth and Legend*, p. 319.

Siegfried listening to the advice of the singing birds smote Mimer with his club and slew him. ¹⁷

Thus the heroes of the *Volsunga Saga* and the *Nibelungenlied* understand the language of prophetic birds and are warned by them against future danger, just as the hero of the Bengali folktale is warned by the prophetic birds and knows how to go about his business.

Diemne Finn, posthumous son of Cumhal (Finn mac Cumhail) wandered to the bank of the Boyne where he found a soothsayer called Finn the Seer. The latter caught a *salmon of knowledge*, by eating which one obtains universal wisdom, and gave it to the boy for roasting it, warning him at the same time not to eat any portion thereof. "Have you eaten any of it?" he asked the boy, as he brought it up ready-boiled. "No indeed," replied Finn, "but while I was cooking it, a blister rose upon the skin, and laying my thumb down upon the blister, I scalded it and so I put it into my mouth to ease the pain.".....Finn ate the "Salmon of knowledge" and thereafter he had only to put his thumb under his tooth as he had done when he scalded it, to receive foreknowledge and magic counsel. ¹⁸

We turn to Egypt and get a similar tale:

In the Nineteenth Dynasty fragmentary Egyptian Folk-tale "Setna and the Magic Book" which has been partially reconstructed by Professor Petrie, Ahura relates: "He gave the book into my hands; and when I read a page of the spells in it, I also enchanted heaven and earth, the mountains and the sea; *I also knew what the birds of the sky, the fishes of the deep and the beasts of the hill all said.*" The prototype of Ahura in this "wonder-tale" may have been Horus as Harpocrates. Ahura, like Sigurd and Siegfried, slays a "dragon", ere he *becomes acquainted with the language of birds*. It is called a "deathless snake". ¹⁹

Then again:

Merodach kills the Tiamat..... Afterwards "He divided the flesh of the *Ku-pu* and devised a cunning plan."

"Mr. L. W. King, from whose scholarly *Seven Tablets of Creation* this line is quoted, notes that *ku-pu* is a word of uncertain meaning. Jensen suggests "trunk, body". Apparently, Merodach *obtained special knowledge* after dividing, and perhaps eating the *ku-pu*. . . ²⁰ He formed the heavens

17. *Ibid.*, p. 357.

18. Charles Squire: *Celtic Myth and Legend*, pp. 210, 211.

19. D. A. Mackenzie: *Egyptian Myth and Legend*, pp. 341, 342.

20. *Ku-pu* was probably the seat of the soul, mind, and magical power. Compare with this Polynesian idea of *Kupua*, under which name meaning 'mysterious character', the ancient dragons of the Hawaiians living in pools and lakes were known. They could assume forms of human or animal beings. See *Myths of China and Japan*, pp. 78, 79.

with one half (of her split body) and the earth with the other. . . His power and wisdom as the Demiurge were derived from the fierce and powerful great Mother, Tiamat." 21 Similar beliefs obtained in Scottish legend and folklore regarding Finn mac Coul obtaining power to divine secrets by eating a portion of the seventh salmon associated with the "well-dragon", and Michael Scot and other folk heroes who become great physicians after tasting the juices of the middle part of the body of the white snake. 22

Apollonius of Tyana "professed to know all languages without ever having learned them, to know the inmost thoughts of men, to *understand the language of birds and animals*, and to have the power of predicting the future." 23 We further read that " . . . *after the manner of the Arabs he managed to understand the language of animals*. For he learnt this on his way through these Arab tribes who best understand it and practise it. For it is quite common for the Arabians to listen to the *birds prophesying like any oracles, but they acquire this faculty of understanding them by feeding themselves, so they say, either on the heart or the liver of the serpents*." 24

It appears from what Philostratus says that the Indians also knew this secret. After discoursing on the methods whereby dragons may be caught by means of spells he says: "They tell us that the city under the mountain is of great size and is called Parax, and that in the centre of it are stored up a great many heads of dragons, for the Indians who inhabit it are trained from their boyhood in this form of sport. And they are also said to acquire *an understanding of the language and ideas of animals by feeding either on the heart or the liver of the dragon*." 25

In all the instances except one it is the dragon or the serpent that has been slain, and with one exception again *eaten*. Finn mac Cumhail eats the "salmon of knowledge". But there is no inconsistency in it, *for the salmon is indeed the dragon*. It is associated with the "well-dragon" as has already been related. "In Gaelic stories the sacred tree is guarded by the 'beast' in the sacred well, and a form of the 'beast' (dragon) is the salmon . . . The salmon is, in Gaelic, a form of the dragon. The dragon of the Lough Bel Sèad, in Ireland, was caught *in the shape of a salmon*. . . In Western European stories, dragons and gods of fire and water assume the forms of fish and hide themselves in pools. Loki of Icelandic legend has a *salmon form*." 26

21. D. A. Mackenzie: *Myths of Babylonia and Assyria*, Preface p. viii. Italics are mine. See also the interesting footnote on p. 147 of the same book.

22. *Ibid.*, Preface p. ix.

23. Philostratus—*The Life of Apollonius of Tyana*, Vol. 1, Intro. p. x. Ed. by F. C. Conybeare (William Heinemann).

24. *Ibid.*, p. 57. Italics are mine.

25. *Ibid.*, pp. 247, 249.

26. D. A. Mackenzie: *Myths of China and Japan*, pp. 75, 76, 77.

Ahura only in the Egyptian folktale does not eat the dragon; slaying the dragon is enough for him, and he has not to eat the heart or the liver of the reptile god. He gets immediate possession of the Book of Spells which enables him to read the language of all animals, including fish and bird. In the Finn story there are, however, no birds.

It has been seen that the heart or liver of the dragon or the serpent is eaten. The heart and the liver represent the vital portion of the body. Courage was believed to be in the liver; hence a coward is called a *lily-livered* poltroon. The liver in the animals was declared by adepts at divination who examined the entrails of slain victims, "to be the tripod of their divination to reside in".²⁷ Liver is regarded as the seat of life as it contains a sixth of the blood in the body.²⁸ It means life in a verse in *the Lamentations of Jeremiah* (c. ii, v. 11). Priests drinking the blood of the animal (how much more by eating the liver?) sacrificed before a goddess were supposed to be possessed by her spirit,²⁹ and thereby enabled to prophesy. Similarly, the *heart* in ancient Egypt "was not only the seat of life but the mind and therefore the source of 'words of power'". The Hebrews and many other peoples used 'heart' when they wrote of mind. Ptah, god of Memphis, was the heart (mind) of the gods. The heart fashioned the gods. . . The Egyptian belief about the power of the 'heart' (the source of magic knowledge and healing and creative power) lies behind the stories regarding heroes eating dragons' hearts".³⁰

It is clear from what has been said that by eating the liver or the heart of the dragon the eater acquired all the essential virtue and power of the dragon. And this is a common cannibalistic belief. The cannibal thought that by killing and eating his powerful enemy he could get transferred to him the latter's magical virtues. Lord Avebury relates a most nauseating practice among some Brazilian tribes, the Tarians, Tucanos and others who pound the charred bones of a corpse disinterred after a month and in a highly decomposed state into a fine powder which they drink, mixed, from several large conches "under the full belief that the virtues of the deceased will thus be transmitted to the drinkers".³¹ It is usual amongst the Australians "to eat the *heart and the kidney fat of the slain with a view to appropriating the enemy's courage*. With a similar object, in the north, you take your foe's head along with you and eat his eyes and the meat off his cheeks. . . ." ³²

27. Philostratus—*Apollonius of Tyana*, Vol. II, p. 347.

28. Jastrow—*The Civilization of Babylonia and Assyria*, pp. 215, 455 (f. n. 90), and 257 esp. f. n. 42). See also *Egyptian Myth and Legend*, p. 55.

29. E. Thurston—*Castes and Tribes of Southern India*, iv. 187 and *Pausanias*, ii. 24, 1.

30. *Myths of China and Japan*, p. 77.

31. *Pre-historic Times* (6th edition revised), pp. 535, 536.

32. Ratgel—*History of Mankind*. Vol. i, 363. See also Vol. i, 129, 485; iii, 193.

According to Professor Petre at the original Sed festival the tribal king was sacrificed and devoured so that his people might derive from his flesh and blood the power and virtues which made him great. The practice was based on belief in contagious magic. Bulls and boars were eaten to give men strength and courage, deer to give fleetness of foot, and serpents to give cunning. The blood of wounded warriors was drunk so that their skill and bravery might be imparted to the drinkers . . . King Unas swallows their (of men and gods) spirits, souls and names, which are contained in their hearts, livers and entrails, and consequently becomes great and all-powerful.³³ Eating of powerful and cunning animals was supposed to impart their strength and cunning to the eaters thereof. "Primitive peoples in our own day, like the Abipones of Paraguay, eat the flesh of fierce and cunning animals so that their strength and courage and wisdom may be increased.³⁴ Dr. Crooke observes that "animals are invested with particular qualities, fierceness and courage, strength or agility and eating part of their flesh or wearing a portion of them as amulet conveys" ³⁵ to the possessor the quality of the animal.

The dower of wisdom to the serpent is of great antiquity. He is the symbol of sapience and cunning. Eve fell through him. "*Be wise as the serpent, but meek as the dove*" is a well-known Biblical phrase. Dr. Marett relates the following belief of the Wiradjuri doctor of the Kangaroo totem: "Afterwards the snake took us to a great hole, in which were a number of great snakes. These rubbed themselves against me, and did not hurt me being my familiars. *They did this to make me a clever man and a doctor.*" ³⁶ It is presumed that the serpent knew the language of the bird. In nature the victims well understand the habits of their enemies that enable them to guard themselves against their attack. From this the idea may have been formed that the serpent knew the language of the bird. In India the serpent and the bird—Nāgas and Suparṇas (Garuḍas, Garuḷas)—are enemies. "The Nāgas understood the language of birds. They gave charm to human beings so that they might share this knowledge. In European and Arabian stories folk-heroes acquire the language of birds or of all animals after eating the hearts of the dragons. A Nāga king causes an Indian king to *understand what animals say.*" ³⁷ The faculty of understanding the language of birds is thus transferred to the eater of its heart or liver.

It has already been seen that the Nāgarājā in the *Kharaputta-Jātaka* gives King Senaka two charms, viz., (1) *saffarutajānanamantam* whereby he

33. *Egyptian Myth and Legend*, p. 168.

34. *Myths of Babylonia and Assyria*, Preface, p. x.

35. *Op. cit.*, p. 316. See also p. 324.

36. Marett: *Anthropology*, p. 249.

37. *Myths of China and Japan*, p. 73. Chavanne's *Contes et Apologues*, quoted therein.

could understand the language of all animals and (2) the spell whereby he could find out the Nāga damsel when she made herself invisible. The Nāgas had other powers. They were in possession of magic jewels. In the *Saṅkhaṭṭa-Jātaka* (No. 524) the Nāga King offers to King Alāra a jewel, "a precious jewel, a turquoise rare with magic power replete".³⁸ In *Jātaka* No. 543 the Bodhisatva gave a Brahman a jewel in which he could behold his children and farm. It may be said in passing that Nāga gifts vanished and returned to the Nāga world. The story of Indra helping Rishi Utaṅka in recovering the *maṇi-kundala* (ear-ring) of Madayantī from the nether world where it had been spirited away by a serpent of the Airavata breed and at another time from the Nāga King Takshaka himself is well-known.³⁹ Similarly, in China "dragon jewels might be carried away by dragons who appeared in human shape—either as beautiful girls or as crafty old men."⁴⁰ They could assume all forms at pleasure and in a *Jātaka* story we read how a Nāga girl came in the disguise of a beautiful human damsel, consorted with the exiled prince and had children by him. She possessed magic power. It is related that when Arjuna lay mortally wounded in the combat with his son Babrūvāhana, Ulupī, the Nāga wife of Arjuna, remembered the *sanjivana maṇi* (the life-giving jewel) and the *pañnaga-ṣarāyana maṇi* came instantly which, when placed by Babrūvāhana against the bosom of his father, immediately resuscitated him.⁴¹ These virtues, according to popular belief, could be inherited by the serpent-slayer.

The birds in the myth and legend are all prophetic. "The birds are the 'Fates' and direct the heroes what next they should do The spirits are usually wild beasts or *birds*—the 'fates' of immemorial folk-belief—and they may either carry the hero on their backs, instruct him from time to time or come to his aid when called on."⁴² The owl is a bird of evil omen; it is a messenger of death. In the Scene of Temptation of Buddha by Māra in Griffith's *Ajantā*, there is an owl sitting on the head of a demon. In Bengal the hooting owl *prophesies* death. Everywhere ravens and crows are regarded as birds of gloomy auguries, as "forms of the spirits of darksome Hades".⁴³ "The singing birds are all singing spirits in India as in Europe. *The language of birds is the language of spirits*. When Siegfried, after eating the dragon's heart, understood the language of birds, he heard them warning him regarding his enemies. . . ." ⁴⁴ The pilgrimage of the soul Ba as a bird

38. Cambridge Translation, Vol. v, p. 90.

39. *Mbt. Aśwamedha*, c. 57, 58, *Ādi*, c. 3.

40. *Myths of China and Japan*, p. 105.

41. *Aśwamedha Parva*, c. 80.

42. *Myths of Babylonia and Assyria*, p. 147 f. n., l. 163.

43. D. A. Mackenzie: *Myths of Crete and Pre-Hellenic Europe*, p. 291.

44. D. A. Mackenzie: *Indian Myth and Legend*, p. 75.

in Egypt is well known. I am reminded (though perhaps not quite relevantly) of the Sufistic spiritualism regarding the quest for Truth in the famous book of the poet and allegorist Farīdu 'l Dīn 'Aṭṭār named *Manṭiku 'l Tayr* (Speech of the Birds).⁴⁵

In India the enmity between the bird and the serpent is traditional. Kadru lay a wager with Vinatā her co-wife (both wives of Kaśyapa) as to the colour of the tail of Uchaiśravā, the heavenly horse, and gained the wager by fraud, as her sons, the serpents, attached themselves, according to her direction, to the tail of the white horse as black hairs. Thus Vinatā became, according to the terms of the wager, the slave of Kadru. Garuḍa, the Eagle-bird, was the son of Vinatā. The serpents promising that his mother would be released from bondage if he stole *amrita* (ambrosia) from Indra's heaven and gave it to them, he went in search of it. The *amrita* was protected by a wheel flashing like the bright sun, terrible to look at, made of steel, and incessantly whirling round it. The wheel was made by the gods to cut to pieces the intending thieves of *amrita*. Garuḍa found even there two fierce red-eyed serpents guarding the ambrosia. He entered through the spokes of the wheel, *killed the serpents*, and stole it. Out of respect to the bones of Dadhici muni of which Indra's bolt was fashioned the mighty bird struck by the bolt condescended to let drop a single feather.⁴⁶ We light upon a similar quarrel in the Babylonian records. The Sumerian Zu bird, the storm demon, stole from Bel the "lord" of deities, the Tablets of Destiny; and in the Etana version it is killed by the serpent who lies hidden in the ox on which the bird preys.⁴⁷ The Etana eagle helps the legendary King Etana in his quest of the Plant of Birth to the nether world. The Eagle, like the Indian Garuḍa, is the slayer of serpents. He carries Etana on his back in his flight to heaven, just as Garuḍa bears Viṣṇu on his back.

Garuḍa is born of the egg, flaming forth like a dreadful fire of Death, his yellow eyes flashing like lightning. He extended his body like fire on the sea and began to scale the heaven and was mistaken for Agni in his mighty anger. Agni, however, disillusioned the gods, saying that he was Garuḍa, son of Kaśyapa, destroyer of the serpents and friendly to the gods. They sang a hymn to him, in which the king of birds is addressed as Rishi, devatā, the sun, Prajāpathi, Indra, Brahmā, Agni, Viṣṇu, Dhātā, Bidhātā, Alaṅkāratatva . . .⁴⁸ He possesses the attributes of Tammuz and Mīttra.⁴⁹

45. Reuben Levy : *Persian Literature* (1923).

46. *Mbt. Ādi Parva*, cc. 27, 33.

47. *Myths of Babylonia*, p. 75. See Jastrow, *op. cit.*, p. 125 for Etana.

48. *Mbt. Ādi Parva*, c. 23.

49. *Myths of Babylonia*, p. 169. The old Sumerian god Tammuz or Dumu-zi-Apsu, "the child of the spirit of the Deep" is the sun-god of the springtime, alluding to the sun's rising every morning out of the ocean. Gilgamesh, the personification of the sun-god, appears in the rôle of Tammuz

In Assyria we have the Eagle-headed winged god, Nisroch (*nisr*, signifying in all Semitic languages, an eagle) whom Professor Pinches considers to be Ashur. "Seeing that the eagle received prominence in the mythologies of Sumeria and Assyria . . . it is highly probable that the Ashur symbol, like the Egyptian Horus solar disk, is a winged symbol of life, fertility, and destruction."⁵⁰ The hawk-god Horus was symbolized as the winged sun disk.⁵¹ He fought with his uncle Set as a hawk against the serpent. Set, as the roaring serpent, symbolized the storm, and was the Typhon of the Greeks; he was night too and all that was evil. Horus was a solar deity. In this connection may be remembered the revolving wheel which protected the *amrita*, essence of life, in Indra's heaven which was stolen by Garuḍa. The idea of life itself being regarded as a wheel is familiar in India. A "wheel of life" is painted on the Ajanta frescoes.⁵² The Tibetans adored the Wheel of Life.⁵³ The Persian god, Ahura Mazda, hovers above the king in sculptured representations of that high dignitary enclosed in a *winged wheel* or disk, like Ashur, grasping a ring in one hand, the other being lifted up as blessing those who adore him. Winged emblems are associated with the Hittite god Sandes, "the prototype of Attis" as Professor Garstang observes⁵⁴ who links with the Babylonian Tammuz. Viṣṇu wields the *Sudarshana* disk;⁵⁵ and he, as Narayana, is the sun-god.

The coincidences above noted very probably point to Indo-Babylonian intercourse at a very early time. Ragozin in his *Vedic India* (pp. 308-10) says: "The connection between the Dravidians of Northern and Western India and the first Babylonian empire—the Babylonia of Shumiro-Accads before the advent of the Semites—becomes less surprising when we realize that there was between them something more than chance relations, that they were in fact of the same race or stock—that which is broadly designated as Turanian. Philology points that way. . . Craniology will not disprove the affinity . . . But even more convincing is the common sacred symbol—the Serpent, the emblem of the worship of Earth, with its mystery, its wealth and its forces. The Accadian supreme god ÊA was worshipped at his holiest shrine at Eridhu under the form of a serpent, and as Eridhu was the centre from which the first Chaldean civilization started and spread, so the serpent-symbol was

stricken by Ishtar; he is the waning sun, approaching the period when nature lies down to winter's sleep. Gilgamesh's address to Sabiter and her answer are found in a fragment, of Mithraism, dating from the Hammurapi period (c. 2100 B.C.). See Jastrow, *op. cit.*, pp. 453, 461.

50. *Myths of Babylonia*, p. 343.

51. *Egyptian Myth and Legend*, pp. 165, 340, etc.

52. Waddell—*Lhasa and its Mysteries*, p. 222.

53. Rudyard Kipling—*Kim*.

54. *The Land of the Hittites*, p. 178, *et seq.*

55. *Myths of Babylonia*, pp. 347, 348.

accepted as that of the race and its religion. The Turanian Proto-Medes also . . . worshipped the snake-symbol of Earth . . . This Proto-Median Serpent, like his Dravidian brother, had the honour of being admitted into the Aryan Mythic Epos. . . But the most remarkable bequest left to classical Aryan India by the intimacy between her pre-Aryan inhabitants and their Chaldean race-brethren, is the legend of the Deluge . . . " The Professor on the strength of the word *manā* deduces "a well-established commercial intercourse between Dravidian India and Babylonia or Chaldea." Another striking evidence is furnished by the discovery in the ruins of Mugheir, ancient Ur of the Chaldees, in 3000 years B.C., a piece of Indian teak, an evidence "particularly conclusive" as the tree grows nowhere else than in Southern India.⁵⁶ Now Jastrow tells us that the "site of the city of Eridu . . . once lay at or very near the head of the Persian Gulf."⁵⁷ Taking the silt deposit at the average rate of 90 feet per year in Babylonia he calculates the age of Eridu. "So, e.g., a city, Eridu, which we know once lay on the Persian Gulf, is now some 130 miles away. Taking 90 feet as the average yearly increase this would take us back some 7,000 years for the period when Eridu still lay on the Persian Gulf."⁵⁸ And Ur is further inland. If Ragozin (who depends for the information on Dr. Sayce, *Hibbert Lectures for 1887*, pp. 18, 136, 137) is to be credited, then either the Indian teak was carried direct to the port of Ur (when Eridu was on the Persian Gulf) or transported from Eridu to Ur a distance of about 13 miles. In the former case, calculating after Jastrow it must have been carried to Ur 750 years earlier. If however we favour the latter supposition it was probably carried to Ur at a time when the U dynasty was flourishing "which was in the third millennium before this era,"⁵⁹ and this well agrees with Ragozin's finding. Now the Dravidian word *U* means a capital city. And I beg humbly to enquire if it should not link with Ur, the capital of the Ur dynasty.

In an ancient list of Babylonian clothing Dr. Sayce found the word *sindhu*, a stuff imported from the Indus, and on linguistic evidence he concludes that the intercourse between the two countries must have been by sea.⁶⁰ The word *sindhu*, as Ragozin observes, is of double import. For if the *muslin*, which is indicated by the word, were an Aryan product, the Aryan export trade could not carry it to Chaldea, "the Aryas of the Punjab not being acquainted with the sea or the construction of sea-going ships". Some Dravidian traders—probably itinerant merchants or peddlers—

56. Ragozin—*Vedic India*, pp. 305, 306.

57. Jastrow—*The Civilization of Babylonia and Assyria*, p. 29.

58. *Ibid.*, pp. 7, 8.

59. Jastrow—*Ibid.*, p. 29.

60. *Hibbert Lectures for 1887*, pp. 137, 138.

in "the relations between the two races" "by no means of an exclusively hostile and warlike nature," carried the stuff to some seaport on the western coast whence it was exported to Chaldea, much as in the tenth century B.C. King Solomon's trading ships imported "ivory, apes, peacocks (Tāmil, *togai*)" which the famous Dravidian scholar, Dr. Caldwell, pronounces to be real Dravidian words introduced into Sanskrit.⁶¹

In this connection, however, Tilak in his learned article, *The Chaldean and the Indian Vedas*,⁶² says that the mutual borrowing between the Accadians or Chaldeans and the Indians proves "either that these two races were neighbours to each other even in Vedic times or that the Chaldean traders had made their way to the mouth of the Indus or to the western coast of India, each people borrowing from the other according to necessity," and that "the intercourse between Chaldea and India existed from a time far anterior to the reign of the Mitanic Kings (B.C. 1400 or 1500)." Moreover, he quotes verses 6, 7, 8 and 10 from *Atharvaveda* (v. 13) to show the connection of the Vedic *Taimāta* and *Urugūta* with their Chaldean equivalents. "... The Serpent *Taimāta* is, I am sure, no other than the primeval water-dragon *Tiamat* generally represented as the female but sometimes even as a male monster in the Chaldean cosmogonic legends. . . . *Tiamat* is the well-known Chaldean androgynous dragon whose fight with Marduk is the subject of some of the cuneiform tablets of the creation legends. . . ." ⁶³ He considers that *Taimat* and *Urugūta* must have been borrowed by the Vedic people from the Chaldeans, and that *Uru* in *Uruaśi* (*Urvasī*) is really a Chaldean word meaning 'nether-world' and well agreeing with *apsaras* (p. 40). On the other hand, the Chaldeans borrowed their words *Jehovah* and *Apsu* from the Vedic people as they did *Sindhu* (p. 37). Lastly there is a "very close resemblance between the Chaldean and the Vedic legends regarding the place and movements of cosmic waters, their conquest by the powers of light, *viz.*, by Indra and Marduk, and also between the cosmographic ideas among the two nations. . . ." (p. 41).

Now Tilak emphasizes the *Vedic connection* with Chaldea, saying that *sindhu* (muslin) went from the Indus country to Babylonia. On the other hand Ragozin emphasizes the *Dravidian connection*, saying that the Vedic Indians, "the Āryas of Penjab" not being acquainted with sea or construction of sea-going ships, could not carry it thither, but the stuff being carried by Dravidian leaders to some seaport on the western coast of India was exported in *Dravidian* vessels to Chaldea. But Tilak is not wrong. For ever

61. I Kings x, 22 and Chronicles ix, 21. *C.H.I.*, pp. 594, 390. Ragozin—*Vedic India*, p. 307

62. *Bhandarkar Commemoration Vol.*, pp. 31, 32.

63. *Ibid.*, pp. 33, 34.

admitting for a moment that the Aryans were innocent of the sea, the Chaldeans could themselves have come to the mouth of the Indus and taken away the *sindhu* and Tilak himself puts forward the alternate theory that "that the Chaldean traders had made their way to the mouth of the Indus". Without, however, denying Tilak's supposition that "the intercourse between Chaldea and India existed from a time far anterior to the reign of the Mitanic kings (B.C. 1400 or 1500)", I am inclined to ascribe the resemblance to his other theory, *viz.*, "that these two races were neighbours to each other even in Vedic times". If, however, by *Vedic times* one understands '*the times when the Vedas were composed in the Punjab valley*', I will make a qualification by substituting *anterior to the Vedic times* for '*in Vedic times*', to avoid misunderstanding.

H. R. Hall makes out a strong case for identifying the Sumerians with the Southern Hindus or the Dravidians on the ethnic and linguistic basis, even turning the scale in favour of the Indian origin of the Babylonian cuneiform script.

(*To be continued.*)

FURTHER GLIMPSES INTO GUPTA LITERARY HISTORY.

BY A. RANGASVAMI SARASVATI, ESQ., B.A.

(Continued from Vol. XV, No. 3.)

MALLINĀTHA, the famous commentator of the Mēghasandēśa, has afforded scholars another glimpse into Gupta literary history. Commenting on verse 14 he says that the verse conveys two senses, one explicit and the other suggested. In the second or suggested interpretation of the verse Mallinātha says that Kālidāsa refers to two famous poets of his time, one, an antagonist and another, a friend. These are respectively Diñnāga and Nichuḷa. The verse as well as the explicit and suggested meanings with Mallinātha's commentary thereon, are given below :—

अद्रेः किंस्त्रिद्वहति पवनः शृङ्गमित्युन्मुखीभिः
दृष्टोत्साहश्चकितचकितं मुग्धसिद्धाङ्गनाभिः ।
स्थानादस्मात्सरसनिचुळा दुत्पतोदङ्मुखः खं
दिङ्नागानां पथिपरिहरन् स्थूलहस्ताबलेपान् ॥

Explicit meaning :—

From this place abounding in wet canes mount up to the sky facing the north avoiding in thy path the blows of the massy trunks of the quarter elephants, and having thy effort marked with astonishment by the simple wives of the Siddhas with their faces raised up in doubt whether the wind is bearing away the crest of the mountain.

Suggested meaning :—

With thy vigour marked with admiration by the celebrated poets and women there, who have their faces raised up in doubt whether the glory of the mighty Diñnāgāchārya is being obscured by thee, rise triumphant, Oh, muse, from this abode of the poet Nichuḷa who has obviated the objections raised against thee, warding off the attacks of Diñnāgāchārya (*i.e.*, my adversary) on the road of Sārasvata.

Mallinātha's commentary :—

अत्रेदमप्यर्थान्तरं ध्वनयति—रसिको निचुळोनाम महाकविः सहाभ्यायः परापादितानां कालिदास प्रबन्धदूषणानां परिहर्ता यस्मिन्स्थाने तस्मात्स्थानादुदङ्मुखो निर्दोषत्वात् उन्नतमुखस्सन्पथिसारस्वतमार्गे दिङ्नागानां ॥ पूजायां बहुवचनम् ॥ दिङ्नागाचार्यस्य कालिदासप्रतिपक्षस्य हस्ताबलेपान् हस्तविन्यासपूर्वकाणि दूषणानि परिहरन् ॥ “अवलेपस्तुगर्वस्योल्लेपनेदूषणेऽपिच” इति विश्वः ॥ अद्रेः अद्रिकस्य दिङ्नागाचार्यस्य शृङ्गं प्राधान्यम् ॥ “शृङ्गं प्राधान्यसान्वोश्च” इत्यमरः ॥ हरतीति हेतुना सिद्धैः सारस्वतसिद्धैः महाकविभिः अङ्गनाभिश्च दृष्टोत्साहः सन् खमुत्पतोच्चैर्भवेति स्वप्रबन्धमात्मानं वा प्रतिकवेरुक्तिरिति ॥ “संसर्गतोदोष-

गुणभवनैर्नात्येनमुपा येन जलाशयेऽपि । स्थित्वातुकूलं निचुळश्चलन्तमात्मानमाश्रतिसिन्धुवेगान् ॥” इत्येत-
च्छ्लोकादिर्माणास्तस्य कवेर्निचुळसंज्ञेत्याहुः ॥

This interpretation which Mallinātha gives must have been based upon some reliable literary traditions current in his time and cannot be merely fanciful. The scholars of Mallinātha's period must have thought that Kālidāsa was a contemporary of Diṇṇāga and Nichuḷa. Of these the former is associated with the title Āchārya which makes it certain that the person referred to is none else than the famous Buddhist logician Diṇṇāga. Scholars are sure about the approximate date of Diṇṇāga but there were some who were not prepared to bring the date of Kālidāsa so late. They wanted to make him a contemporary of Vikramāditya, the founder of the Samvat era beginning with 56 B.C. Accordingly they concluded that there was nothing in the particular interpretation of the verse compelling conviction about the date of Kālidāsa and his contemporaneity with Diṇṇāga. Such double meanings, according to them, could be found out in the works of any other ancient Sanskrit poets and no conclusive theories could be based on them. Only the scholars do not cite another example of a similar nature, where the allusion is merely fanciful. Again they did not think that Mallinātha might not have coined the interpretation himself but was merely giving out an interpretation current up to his time. In the beginning of his commentary on Raghuvamśa Mallinātha refers to two previous commentators Dakṣiṇāvarta and Nātha in the following verse:—

तथापि दक्षिणावर्तनाथाद्यैः क्षुण्णवर्त्मना ।

वयंतु काळिदासोक्तिष्ववकाशं लभेमहि ॥

Of these the commentary on the Mēghadūta by Dakṣiṇāvarta is now available, thanks to the industry of the Travancore Palace Publishers. An extract from the comment of the particular verse bearing on this point is given below:

... सरस निचुळादित्यत्र निचुळपदेन निचुळाभिधानः कश्चन कविर्विवक्षितः । तस्य सूक्तिः सुभाषिते श्रूयते । “संसर्गजादोषगुणाभवन्ति सिन्धुवेगान् ॥” इति अनया निचुळोपवर्णनया तस्य कवेर्निचुळाभिधानत्वमासीदित्यनुसन्धेयम् । स तु निचुळकविरास्थानगतः काळिदासस्य सूक्तीस्सम्यावयति । तस्मात्सरसपदेन तं कविं स्तौति । खमुत्पत । अनेन स्वकाव्यस्योच्छ्रितं स्थानविजृम्भणं विवक्षितम् । अयमभिप्रायः—किमन्यैरसूयुभिः, आस्थानगतो रसिकः स निचुळ एव तवोच्छ्रायं करोतीति दुर्जनभीषणभीतं मेघसंन्देशाभिधानं स्वप्रबन्धं मेघच्छद्मना समाश्रासयति । तव काव्येकेनामदूषयन्तीत्यपेक्षांहृदि कृत्वाह—दिङ्नागानां दिगाजानाम् । अनेन दिङ्नागाचार्यश्च विवक्षितः । पथि अनेन विजृम्भणावकाशः उत्पतत मार्गश्च विवक्षितः । परिहरन् वर्जयन् स्थूलहस्तावलेपान् उत्पतन्तं मेघमालोक्य सजातीय भ्रमेण स्थूलहस्तावताडनानि संभावितानि । अनेन प्रबन्धदूषणसमये स्थूलहस्ताभिनयाश्च विवक्षिताः । अयमभिप्रायः—दिङ्नाग इति कोऽप्याचार्यः काळिदासप्रबन्धान् ॥*

* अन्यत्रोक्तोयमर्थ इति स्थूलहस्ताभिनयैर्दूषयति । तमाचार्यं स्वप्रबन्धस्यापूर्वार्थाभिधायित्वमाश्रित्य मेघोपदेशव्याजेन कविरुपालभत इति ॥

In this passage the commentator Dakṣiṇāvarta supports the interpretation of Mallinātha. He calls the person to whom Kālidāsa alluded by the term Diñnāgāchārya. He also records the tradition that the other poet at the Court who supported Kālidāsa got the name Nichuḷa by composing a particular verse and repeats the same verse that is quoted by Mallinātha. This passage thus adds strength to the supposition that Kālidāsa was a contemporary of Diñnāga, the famous Buddhist logician. The rivalry and antagonism between Kālidāsa and Diñnāga might have been due not only to the fact that Diñnāga was a famous orthodox Buddhist logician of his time and as such opposed to Kālidāsa who was a follower of the religion of the Vēdas and a devout Śaiva. There might also have been purely literary contests between them. The name Diñnāga is found as that of an author in Sanskrit Anthologies like the Subhāshitāvalī of Vallabhadēva. In some places his name is found prefixed by the term Bhadanta denoting that he was a Buddhist. But no work of Diñnāga is available. Recently Messrs. M. Ramakrishnakavi and S. K. Ramanadha Sastri, have published a hitherto unpublished drama called Kundamālā.* This drama is said by them to have been the work of Diñnāga, the antagonist of Kālidāsa, but there are serious difficulties confronting the scholar before accepting the work as that of Diñnāga. The drama itself seems to have been known to several Sanskrit rhetoricians for a considerable time who have referred to it. The Bhāvaprakāśa of Śāradātanaya and the Sāhitya Darpaṇa of Viśvanātha mention the Kundamālā of whom Viśvanātha quotes a considerable portion of the prologue. But neither of the authors tells whether it is the work of Diñnāga. Again, of the manuscripts examined by the publishers, those at Tanjore want the beginning and so the name of the author is lost. But the colophon of the manuscript says that the author is Dhīranāga (and not Diñnāga). There are two manuscripts of this work in the Government Oriental Library, Mysore. †Of these one is a copy of the other. The original is in Grantha characters and the copy in Kannada. In the original manuscript the name of the poet is not Diñnāga but Dadhīchināga. In the paper transcript of this also the name of the author is given as Dadhīchināga. But later on somebody has scored out the name and written above it instead, Diñnāga. Thus it is plain that so far as manuscript material is concerned, there is no warrant for the statement of the publishers that the work is from the pen of Diñnāga. They appear to have been misled by the correction in the Mysore Library paper transcript, of which they got a copy. But they do not appear to have been conscious of the

* Dakṣiṇabhārati Series No. II.

† I am obliged for this information to His Holiness Sri Yatirajaswamy of Mysore and Rao Bahadur Prāktanavimarśa Vichakshana R. A. Narasimhacharya, M.A., Retd. Director of Archaeological Researches, Mysore.

fact that the reading was only a later addition in one of the manuscripts. Again it appears highly improbable whether a Buddhist divine and philosopher like Diñnāga would have written a drama like the Kundamālā where the story is taken from the famous Hindu epic Rāmāyaṇa and extolled the great qualities of its hero, Rāma. The publishers of the work have put themselves this question but they also managed to find an easy reply to it. They think that Diñnāga might have written this drama just as Kumāradāsa, the Buddhist sovereign of Ceylon, wrote the poem Jānakīharaṇa about the same hero. The argument is not so easily convincing as the publishers expect. The poetic beauty of the Rāmāyaṇa and the excellence of Rāma's character might have induced the Buddhist to choose his plot from the Hindu epic. But they should also be able to explain how such a great Buddhist divine and logician as Diñnāga could have so far forgotten his creed as is evident from the invocation to the Gods at the beginning and the close of the Kundamālā. The opening verse of the drama praises the God Hērambagaṇapati who has no connection whatever with the story of Rāmāyaṇa. The second verse is in praise of the matted hair on the head of Śiva. Again the last verse of the drama, the Bharatavākya or benediction, contains benedictions of several Hindu Gods like Śiva, Brahma, Sūrya, the elements, the Vēdas, the hymns of the Sāman. He also refers to ascetics (Tāpasas) who have attained to samyaksamsiddhi. Although he dwells at such length in the several places to praise and worship heathen Gods, he nowhere mentions either Buddhism or its divine founder. Diñnāga would have behaved differently even if he could have stooped to write a work on such a theme.

Now leaving the question of Diñnāga let us take that of the Kundamālā. There appear to have been several works of that name known to Sanskrit critics. The Śringāraprakāśa refers to a drama of the name Kundamālā which must be different from the present work. At the beginning of the twenty-eighth Prakāśa occurs this following passage :—

द्रव्यवत्सु मालाकारो मयूरकः कुसुमगेहस्य कुन्दमालायाम् ॥

This prakāśa or chapter of the Śringāraprakāśa deals with the several kinds of love messengers (Dūtas) that occur in Sanskrit dramas. It mentions a drama called Kundamālā. It mentions the (garland maker) Mālākāra, by name Mayūraka, as the messenger of Kusumagēha in the drama Kundamālā. The work that is referred to here cannot be the Kundamālā about which we had so far been discussing. The characters Mayūraka and Kusumagēha are not found in the published Kundamālā. Nothing is known about its date or authorship and there is nothing to connect it with Diñnāga. Diñnāga's name is associated with the names of several other famous Buddhist authors and philosophers. Born of a Brahman family in a village near Kānchī, he devoted

his early life to the study of the Nyāya philosophy but was soon converted to Mahāyāna Buddhism. He defeated in controversy all the Brahmans and Buddhists at the great University of Nalanda. As a result of this conquest he got the title Tarkapungava. He was a disciple of another famous Buddhist author and philosopher Vasubandhu. Diñnāga wrote several works on Logic like the *Pramāṇasamuchchaya*.

Vasubandhu and his brother Asaṅga were two famous philosophers who lived during this period. Of these Vasubandhu was the author of the *Upadēśa* on the *Mahāyānasūtras*. Hearing of the defeat of the Buddhists at the Court of Vikramāditya, he went there and conquered them in controversy. By the eloquence of Vasubandhu Vikramāditya himself, who had till then been a follower of the Sāṅkhya philosophy turned a favourable ear to Buddhism and patronized its Professors with equal liberality. His queen and the prince Bālāditya who later on succeeded to the throne, both became disciples of Vasubandhu and Bālāditya after his accession continued his favours to the Buddhist sage. Vasubandhu's name is associated with the founding of the *Vijñānavāda* School of Mahāyāna Buddhism.

On account of the misreading of a small passage in Vāmana's *Kāvya-lankāra-sūtra* Vasubandhu was thought even to have served as a minister under some Gupta king, Samudragupta or Narasimha Gupta. *It has been proved in another paper that the reference in Vāmana's work has nothing to do with Vasubandhu but refers to an early poet, called Subandhu, who lived at the Court of the Mauryan emperor Bindusāra, as his minister and who wrote a drama called *Vāsavadattā-nāṭyadhārā*. There was a later namesake of this Subandhu in the Gupta period. He was the author of the existing Sanskrit prose romance called *Vāsavadattā*. This Subandhu lived in Gupta times. He bemoans the death of the famous Chandragupta Vikramāditya of this dynasty in the famous tenth verse at the beginning of the poem.

A Subandhu, the author of a *Nāṭaka-lakṣhaṇa*, is referred to in *Bhāva-prakāśa* by *Sārādātanaya*. He is there said to enumerate five varieties of *Nāṭaka*,—the *Purāṇa*, *Prasanta*, *Bhāsvara*, *Lalita* and *Samagra*, defines their properties and gives illustrations of each. Of these only the *Vikramōrvasi* of *Kālidāsa* and *Svapnavāsavadattā*, the drama of the ancient poet *Bhāsa*, a portion of which along with various other ancient dramatic bits and abridgments have been discovered and published at Trivandrum by Mahārāja T. Ganapati Sastri, are now available. It cannot be definitely said whether this Subandhu is identical with the author of the prose *Vāsavadattā*. But he also appears to belong to the Gupta period.

†Asaṅga, the brother of Vasubandhu, was also a great philosopher who

* *Proceedings and Transactions of the Second Oriental Conference*, p. 204.

† *Indian Antiquary*, IV, p. 141.

lived at this period. An earlier convert from the Hinayāna to Mahāyāna, he commented on the Mahāyāna sūtras. Later Buddhists believed that Maitrēya, the Bōddhisatva himself, used to come down from Heaven and assist Asaṅga while preaching. The famous Buddhaghōsha who is credited with the collection of the text of the Tripitakas and commenting on them and who wrote several authoritative works on the religion lived during the Gupta period. He wrote the poem Padyachūḍāmaṇi dealing with the life of Buddha in the Kāvya style. Like Diñnāga Buddhaghōsha was not born a Buddhist.* He was a Brahman learned in Brahmanical lore and controverted the doctrines of Buddhism during his early career. He was later on converted to Buddhism of which he soon was ordained a priest. He travelled much in Jambūdwīpa (India) and Ceylon. The results of his work are visible even to-day in the literatures of Burma, Ceylon, Siam, Suvāṇṇabhūmi and a large number of works attributed to him are found in those countries. A contemporary of King Mahānāman of Ceylon (Circa A.D. 403) Buddhaghōsha appears to have visited India during the reign of the greatest of the Gupta emperors, Chandragupta, Vikramāditya. Referring to him the following has been written :—"One of the most extraordinary men that Buddhism had produced, Buddhaghōsha did not confine himself to translating. . . . He has left a rich legacy of literature to Burma, Siam and Ceylon. Suvāṇṇabhūmi in particular has reasons to be proud of him."

An illustrious contemporary of Buddhaghōsha was Buddhadatta. Born in a village called Bhūtamaṅgaḷa in the Chola country he became a famous inmate of the Mahāvihāra of Ceylon. Before leaving for Ceylon he lived at a famous Vihāra or monastery in his native district erected by Venhūdāsa (Vishṇudāsa) or Kṛishṇadāsa at Kāvērīpaṭṭaṇa, the ancient capital of the Chola country at the confluence of the river Kāveri with the sea. From his works it is gathered that a king called †Achyuta Vikrama of the Kaḷamba

* *Introduction to Buddhaghōsuppatti*, by James.

† The mention of King Achyuta Vikrama of the Kaḷamba family who was ruling when Buddhadatta lived at Kāvērīpaṭṭaṇa in the Chola country seems to be very important and interesting. Epigraphical research has not so far revealed the name of any king of that name or dynasty ruling at the period in the Chola country. The name Kaḷamba of the dynasty appears at first sight to be connected with the name Kādamba. But the dynasty of kings of this name known so far, does not appear to have had anything to do with the Dramila or Chola country. They ruled far to the North-west in the Dekhan with their capital at Vaijayantī or Banavāsi and at the period we speak of were subordinate to the Vākātakas. The kings that ruled at this period were Ravi-varman, Harivarman, Simhavarman, and Krishṇavarman. They were then under the suzerainty of the Vākātakas. So they could not have anything to do with the Chola country. Who then could be the King Achyuta Vikrama, contemporary of Buddhadatta. A people or dynasty called Kaḷabhras are mentioned in about half a dozen places in South Indian epigraphy. They are mentioned in the Gadvāl plates of the Western Chāḷukya Vikramāditya I, in the inscriptions of the Pallavas and in the Vēlvikkūḍi grant of Parāntaka Pāṇḍya. The identity of these Kaḷabhras

dynasty was ruling at the time. Buddhaghōsha and Buddhadatta met each other and the tradition is that it was then agreed that Buddhaghōsha should send his commentaries to Buddhadatta as they were finished and that the latter should summarize and comment on them. Buddhadatta's two famous works were the *Abhidharmāvatāra* and *Vinayaviniścaya*. He also wrote a number of other works on the Buddhist canon.

Dharmapāla, another famous commentator of Buddhist works, lived at this period. His *Paramārthadīpani* is considered a most authoritative work on Buddhism. He was the head of a great monastery at Kāñchīpura and he was born at Pādaratītta in the kingdom of Dramiḷa.

The famous Buddhist pilgrim Fahiyān, a great monk of that religion and an intelligent observer, came to India during the reign of the Emperor Chandragupta II Vikramāditya, in his search for Buddhist manuscripts and legends. He spent six years of his life in India and has left behind him a very vivid and fascinating account of the state of the country and any reader of the account feels sorry that the devout pilgrim has not written more.

India under the Guptas continued to be the fountain of the civilization and religion of Asia not only through foreign scholars and monks going to her in search of religious instruction, manuscripts, etc., but also through India sending her own sons abroad to these countries to reform their religion and improve their civilization. The Chinese Emperor Hsiao Yen, a devout Buddhist, sent a mission to Magadha for the purpose of collecting Mahāyāna texts and obtaining the services of a competent scholar to translate the same to Chinese. The Gupta sovereign of the time sent with the mission the great scholar Paramārtha. Under his guidance the mission collected a large number of manuscripts, some of which he later on translated into Chinese. Paramārtha spent the latter portion of his life in China and after a long sojourn in his adopted country died there at the age of seventy.

has not yet been satisfactorily settled. It is only known that the ascendancy of these Kaḷabhras intervened between the Kings of the Chōḷa and Pāṇḍya dynasties mentioned in what are termed the Sangham Classics and those mentioned in the copper-plate inscriptions. The length of the rule of these people over the Tamil country is undetermined. Some scholars who are interested in dating the Sangham works late think that the so-called Kaḷabhra interregnum occurred about the sixth century and that it could not have lasted for more than a generation and that the people represented by the term Kaḷabhras were invaders from the Kannada country who held a short-lived mastery over the Tamil kingdoms. The name Kaḷamba of the dynasty to which the king ruling over the Chōḷa country in the period of Buddhadatta at Kāvērīpaṭṭaṇam seems to refer to these Kaḷabhras. The King Achyuta Vikrama was a member of this dynasty. There is nothing to show from the meagre information at our disposal whether the Kaḷambas had anything to do with the Kannada country. But what is important is that if the Kaḷambas (Kaḷabhras) were ruling in the fifth century the kings mentioned in the Sangham works as rulers and patrons must have lived sufficiently long before the beginning of the fifth century.

It was during the reign of Samudragupta that Sirimēghavaṇṇa, the Buddhist king of Ceylon, despatched an embassy laden with gems with the request that he might be allowed to found a monastery on Indian soil. The request was granted and Mēghavaṇṇa erected a splendid monastery to the north of the Bodhi tree at Gaya with three stories and six halls which were adorned with three towers. The decorations were executed in the richest colour with the highest artistic skill and the statue of Buddha cast in gold and silver was studded with gems. During the reign of Harsha, the Chinese pilgrim Yuanchuan who visited India recorded that the monastery was occupied by a thousand monks of the Mahāyāna school and afforded ample hospitality to Ceylonese pilgrims.

The study of the system of Sanskrit grammar of the Pāṇinian school was pursued during this period with great zeal. Some of the early commentators are referable to this period. The Buddhists of this time seem to have found it very inconvenient to study the Pāṇinian grammar in its entirety since a considerable section of it, that relating to Vedic grammar, was not necessary for their purpose and concerned what according to them was heathen literature. Consequently attempts were made to divest Pāṇini's grammar of its Vedic portion and give in a concise and abridged form the rest of the work. The most notable of such attempts is found in the Chāndravyākaraṇa written by Chandragōmin, who also seems to have written a gloss or Vṛitti on his sūtras. The author affords some information about his time in his work. He gives the sentence अजयकुतो हूणान् as an illustration of the use of the imperfect tense to express an event which occurred in the lifetime of the writer or which he himself might have witnessed. The victory over the Hūṇas here referred to might relate either to the defeat which they suffered at the hands of Skandagupta or to their final destruction by Yaśōdharman. This gives the period A.D. 470 to 544 as the time when Chandragōmin lived and wrote his grammar. Besides his grammatical works Chandragōmin is credited with the authorship of a religious poem called Śishyalēkha and a drama called Lōkānaṇḍa, neither probably of much importance.

The six systems of philosophy, the Shaḍdarśanas, were very eagerly studied during this period and some of the early commentaries of the respective sūtras are referable to the Gupta period. These six systems of philosophy as well as Jainism and Buddhism were eagerly followed and the adherents of the schools appear to have had tough fights with one another in their disputations. In the course of these disputations the schools of philosophy themselves had important developments. The Sūtra texts which are the hand-books of these schools of philosophy have references to others which they controvert and refute as well as to Jainism and Buddhism. Bādarāyaṇa,

the author of the *Brahma Sūtras*, is referred to and criticized by Jaimini, the reputed author of the *Pūrva Mīmāṃsa Sūtras*. Similarly the sūtra of *Bādarāyaṇa* mentions Jaimini and refers to theories propounded in the *Karma Mīmāṃsā* and criticizes them. The atomic theory of *Kaṇāda* as propounded in the *Vaiśeṣika Sūtras* contains reminiscences of the *Brahma Sūtras*; *Gautama* in his *Nyāya Sūtras* shows clearly that he is familiar with the terminology of both the *Mīmāṃsā* and *Brahma Sūtras*. The *Yōga Sūtras* of *Patañjali* refer to doctrines propounded in the *Vaiśeṣika Sūtras*. Again several of these sūtras seem to refer to schools of Buddhism and their opinions such as those of the *Mādhyamikas* and *Yōgāchāras*. Such occurrences have proved for a very long time a stumbling block in the way of the critical historian of these schools and he is at times very unwillingly compelled in spite of his conviction to accept a very late date for the rise of these schools and the composition of the particular sets of sūtras. Similarly critics, ancient and modern, are aware of different views propounded by the same school as those of the *Sēśvara Mīmāṃsā* and the *Nirīśvara* or atheistic *Mīmāṃsā*, *Sēśvara Sāṅkhya* and *Nirīśvara Sāṅkhya*. The tendency of late scholars had been to take the whole bulk of each set of sūtras as they exist at present and attribute them to the author of the original school round which all these later discussions grew up. Relying upon them the modern historian has attempted to fix the date of the rise of these schools and comes to conclusions which are at variance with what he would come to from other data. Similarly the Buddhist works like those of *Nāgārjuna*, *Āryadēva* and *Diñnāga* criticize the views that are expressed in these sūtras for which replies are also discernible in them. This is not the place to discuss this very interesting question at length. The only way out of the difficulty seems to be to accept that the texts of these sūtras were not fixed till after a considerably late period. The portions that were introduced into them last must have belonged to the Gupta period. Only on this assumption is it possible to explain the obvious references and refutations of the opinions in the works of the Gupta period like those of *Vasubandhu* and *Diñnāga*. It is idle to assert that these sūtras do not refer to the particular Buddhist views which can be assignable to dates in the Gupta period. It seems equally idle to assert that the sūtras were first written during the Gupta period after *Vasubandhu* and *Diñnāga*. The only plausible explanation is that several sūtras had been added to these older works during this period and it is in them that these later references are found. Tradition has preserved the names of several ancient commentators of the *Mīmāṃsā* and the *Brahma Sūtras* who are considered much anterior in date to any whose works are now extant. It is possible that some of these might have lived during this period. The text of the *Brahma*

Sūtras as handed down to Śāṅkara is different in several places from that of Rāmānuja, who quotes several ancient authors whose works are now extinct, in support of his text and interpretation. It is highly probable that some at least of these like the Vṛttikāra Bōdhāyana, Ṭanka, Brahmanaṇḍin, Dramiḷa, Guhadēva and Bhartṛprapañcha are attributable to this period. Praśastapāda, the commentator of Kaṇāda's Vaiśeṣhika Sūtras, is referred to this period. Similarly the Sāṅkhyakārikā of Īśvarakṛishṇa seems to belong to the age. Chinese tradition makes him a contemporary of Vasubandhu whose date has been ascertained.

During the Gupta period the study and development of Indian astronomy was at its zenith. Some of the most notable names on the line belong undoubtedly to the time. Varāhamihira lived about the middle of the sixth century and he took for his epoch the year 505 A.D. when, according to some scholars, the astronomical writer Lāṭa wrote his commentary on the Rōmaka Siddhānta. Āryabhaṭa whom Varāhamihira calls his authority, according to his own statement, wrote his astronomical treatise the Laghvārya-bhaṭṭyam in 499 A.D. It is possible that some at least of the other writers like Simha, Vijayanaṇḍin, Pradyumna and Yavanāchārya lived during this period. In this epoch Indian astronomy came in active contact with Greek astronomy and mutual influence is discernible in both. Two of the authors whom Āryabhaṭa takes for his authority, Puliśa and Rōmaka, are believed to have largely imported astronomical knowledge from the West. These two Siddhāntas used the tropical solar year as in the Greek astronomy and calculated its Ahargaṇa from the meridian of Yavanapura (Alexandria) and stated the difference in the longitude between this Yavanapura and Ujjain. The week-day of the Hindu astronomer is believed by a certain school of authors to have been borrowed from Greece during this period. But there does not appear to be any sure basis for this supposition according to others. Works like the Bōdhāyana Dharma Sūtra, the Gādhāsaptaśatī of Hāla have these mentioned in them and the theory of its borrowing at this late period is not proved.

The Purāṇas, as they are preserved at present, are believed to have assumed their final forms during this period. The dynasties of future kings of the Kali age, as they are recounted in them, appear to give more or less historical matter up to the time of the Guptas when they become indefinite and narrate merely in general terms about the evils of the Kali age. These portions, it is almost certain, must have been added at this period. Kalki, who is mentioned in some of these Purāṇas as the future Avatār of Viṣṇu who will destroy vice in the Kaliyuga and establish once more the reign of Dharma, is believed by some scholars to be the same as the Kalkirāja, the orthodox

Travellers have recorded their impressions of the mountain, now stripped of all myth and shorn of all allegory.

Its correct position is in the territory of Phaselis on the east coast of Lycia, on a spur of the mountain named Climax, which is a projection southward, towards the Mediterranean, of the Solymi mountains. All these belong to the Taurus system. Strabo's location in the valley of the Cragus* above Xanthus has been found to be incorrect. The Chimæra is not far from the coast, though between it and the sea are the ridges of the Climax formation.

There is a flame burning on a rock of the mountain continuously.

"It is nothing more" says Spratt (Vol. II, p. 181) "than a stream of inflammable gas issuing from a crevice, such as is seen in several places in the Appenines."

Going back to the Tamil Purāṇa, we should strive to get at the nucleus of the fable. The mountain was an Asura who was forced to retain that shape as the victim of his own enchantment. It is here that Tāraka takes refuge. The Asura brothers were three: Sūrapadman, Singamukhāsura and Tārakan. Their sister was Ajamukhi. Singamukhāsura had the lion's head, Tārakan, the elephant's, and Ajamukhi had a goat's head.

Sūrapadman was probably a dragon below the waist. The mountain was really the combination of the brothers and their sister. Each head of the Chimæra or tail is individualized with a separate body and (three) four Asuras manufactured out of it. It should be remembered that when the attack was made on the mountain, it was directed by Tārakan to assume a *three-fold appearance*, and Tārakan himself continued changing his own shape and form. The account reads as if Tārakan was really the life-principle of the otherwise inanimate rock.

It is clear that the Tamil narrative is a reproduction of the Chimæra fable. Taking one thing with another, and giving each fact its due weight and importance, we may regard it as established that the Kraunca mountain pierced by the Son-God is the Chimæra near Phaselis on the Lycian coast. If this is the Kraunca mountain, and if, as admitted in the texts, the mountain has given its name to the Dwipa, the latter is easily recognized as Anatolia or Asia Minor. The proof, however, does not end here. There is ample material available for verifying the identity.

Chapter VIII.

It is not the practice of the Purāṇas, ordinarily, to give definite data of time and place as to the occurrences they record, but it is necessary for us to further fix the position of the Kraunca attacked by Skanda. It should be borne in mind that this adventure is the last incident mentioned in the war against

* Hamilton and Falconer's Translation, Vol. III, p. 46.

the giants : so that the position of the Kraunca hill could not be far away from the battle-field.

We have to take note of two Krauncas ; the one adjacent to the Himālaya, being a spur or off-shoot of the mighty range and the other being a mountain in Kraunca-dwīpa. Which of these two is the mountain-hero who engaged Skanda in battle ?

In the chapter of the Mahābhārata cited above at p. 122 we read that the mountain Kraunca attacked by the infant-god Skanda (he was then only four or five days old) was the one near the Himālaya and is described as the son of the latter. It was not in connection with any war between the gods and the Asuras, nor because the mountain gave any offence, but out of mere play or frolic of the infant, who wished to show off his great strength.

The Bhārata version cannot be accepted as correct. There is clear and positive authority to the contrary.

From a work entitled मृगेन्द्रसंहिता, Mrgēndra-saṃhitā, a passage has been extracted which runs as follows :—

क्रौञ्चो क्रौञ्चो हतो दैत्यः क्रौञ्चाद्रौ हेमकंदरे
स्कन्देन युद्धा सुचिरं चित्तमायी सुमायिना ।
स शैलस्तस्य दैत्यस्य ख्यातश्चित्रेण कर्मणा
केतुतामगमत्तस्य नाम्ना क्रौञ्चस्य उच्यते ॥

“ In the *Kraunca-dwīpa* was slain the wily Daitya (Asura) named *Kraunca*, in the mountain of *Kraunca*, in the golden cavern, having fought long against Skanda, who was more wily than himself. That mountain was celebrated for the curious works of the Asura chief ; and becoming finally the ensign or standard of the Asura was known by the name of *Kraunca*. ”

It is placed beyond doubt by the above text that *Kraunca*, the Asura and mountain, killed or disabled by Skanda was in *Kraunca-dwīpa*, and not near the Himālaya. For the latter is in the *Jambū-dwīpa*, and *Kraunca-dwīpa* is the fifth in the order, with three *dwīpas* between it and the *Jambū-dwīpa*.

The *Srīmad-Bhāgavata Purāṇa* in speaking of *Kraunca-dwīpa* says that the name was derived from the mountain therein, and adds this note about the mountain :—

योसौ गुहग्रहरणोन्मथित नितम्बकुञ्जोपि क्षीरोदेना
सिच्यमानो भगवता वरुणेनाभिगुप्तो विभयो बभूव ॥

“ Who, though bruised and wounded in his sides by the blows of Skanda, being washed by the tonic waters of the ocean of milk, and taken under the protection of the god of waters (Varuna-Poseidon), still rears his head free from fear.”

One incident of the war should not be forgotten, for it has some significance. The all-consuming flames burst out on the battle-field at the bidding

of Maya. It was the result of invoking the aid of *Ourwa*, *और्वः*, 'the perpetual fire', who had his home in the bottom of the sea. It is not unlikely that a notion prevailed that volcanic fires had their origin in the regions below the expanse of the sea. Now it is a strange coincidence, which may mean something or nothing, that the battle-field of the Greek myth was situated in that part of Cilicia which owned the sway of Olbia: and the larger of the caverns was under the guardianship of the Olbian Zeus—Olbia was about fifteen miles inland from the Corycian coast, at a great height, nestling among almost inaccessible rocks. The ruins of the old place were identified by the enterprise and perseverance of Theodore Bent.

The point of interest for the present purpose with respect to this discovery is contained in the lines extracted below:—"The nomads still call the place *Oura*, a highly interesting case of the retention of a name, for Mr. Ramsay previously considered *Olba* to be a Hellenised form of *Ourwa*, with a view to introducing the idea of "Olbos or happy".*

It is probable, therefore, that the word *Ourwa* was a Hittite name.

According to the Purāṇic fable, the Asura flees to the Kraunca mountain, which is at some distance from the battle-field. We do find the *Chimæra* at some distance from the Corycian field. The idea of distance should be judged relatively, and, in this instance, from the standard of the immortal gods and of those who piled *Ossa* upon *Pelion*.

The connection between the incarcerated giant and *Chimæra* of the fable is well-known. She was his daughter. The havoc she caused in her devastating raids in Lycia was probably actuated by a spirit of retaliation and revenge for the treatment accorded by Jove and the gods to her parent.

The red-peaked hill on which the Son-God planted his *Śakti*, and where he was worshipped, is in all likelihood the celebrated seat of Apollo's worship at *Xanthus* in Lycia. This city was the largest in Lycia and the capital of that province. It was placed on hills 'in the midst of the most romantic scenery', in the valley of the river *Xanthus*. Apollo owed to this place one of his titles as '*Xanthos*'. The chief buildings at *Xanthus* were the temples of *Sarpedon* and of the Lycian *Apollo*. The hill on which the city stood or the city itself was known in the Lycian speech as *Arna* or *Arina*.

Daniel Sharpe says that *Arina*, the ancient name of *Xanthus* (the *Arna* of *Stephanus Byzantinus*), occurs both in the Greek and Lycian parts of several inscriptions.† What the word *Arna* signified in the native tongue has not been stated. The Greek *Xanthos* is translated as *auburn*.

* *Explorations in Cilicia Trachea*, by J. Theodore Bent.

† Daniel Sharpe's Essay in Sir Charles Fellowes' *Second Excursion to Lycia* (1841).

It was in the valley of the Xanthus, and not far from the city, that Strabo placed the mysterious Chimæra, probably on the foundation of some local tradition.*

Now if the word Arina or Arna were reproduced in Sanskrit it might be written as 'Aruna' which, as a Sanskrit word, means red, of the colour of the rising sun.

It is probable that here arose the inspiration for the idea of the red-peaked mountain.

Chapter IX.

Before closing this section, I have to speak of an adventure of the god-man Paraśurāma from whose hands the Kraunca mountain is stated to have suffered a disaster similar to the one inflicted on it by the god Skanda.

I speak of it lest it should be said that I did not notice it, and for the additional reason that this legend has been the cause of some confusion among scholars who should have been above it.

Paraśurāma was a divine incarnation. He was a soldier-Avata. Twenty-one times he waged war against the Kshatriyas and exterminated the class. In his youth he had the good fortune of being accepted as a pupil of the great god Śiva, from whom he learnt the use of arms. He knew or heard of the exploit of the god Skanda against the Kraunca mountain. Paraśurāma was anxious to emulate this feat, and tried his prentice-hand against the mountain. He fared better than his preceptor's son. For, says the legend, whereas Skanda's shafts or his Śakti caused a cavity in the hill only for one half of its breadth, Paraśurāma's arrow pierced through the entire mass and came out at the other end, causing a tunnel-like perforation successfully carried out.

A question has been raised as to whether the mountain, Kraunca, attacked by Paraśurāma was the same as the Kraunca of the Divine Son's enterprise.

If it were not the same there would be no point in the story, for the contest might be unequal and would not redound to the credit of the Avata. The story of Paraśurāma's exploit is widely known. But I have not been able to ascertain where in Sanskrit literature the legend is recorded. In the Śabdakalpadruma and the Vāchaspatyam, which are two comprehensive Sanskrit dictionaries, the story is made to rest on the allusion of a poet and the annotation of a commentator.

The allusion is found in Kālidāsa's well-known work, the Mēgha-dūtam, verse 57:—

प्रालेयाद्रे रुपतटमतिक्रम्य तांस्तान् विशेषान्
हंसद्वारं भृगुपतियशोवर्त्म यत् क्रौञ्चरन्ध्रम्
तेनोदीची दिशमनुसरेः

* Translation by Hamilton and Falconer, Vol. III, p. 46.

The direction given to the cloud-messenger was that "on his approach to the slopes of the Himālaya, he should feast his sight with the wonderful scenery thereabouts; and make his way further by passing through the Kraunca tunnel or gorge, the well-known passage for migrating swans, the great line of march of *Paraśurāma's* imperishable glory".

The commentator's note on this reference to *Paraśurāma* runs as follows :—

पुरा किल भगवतो देवाध्वर्जटैर्धनुरपनिषद् मधीयानेन भृगुनन्दनेन स्कन्दस्य स्पर्धया कौञ्चशिखरिण मतिनिशितविशिखमुखेन हेलया मृत्पिण्डभेदं भित्त्वा तत एव कौञ्चक्रोडादेव ससुज्जृम्भिते कस्मिन्नपि यशः क्षीरनिधौ निखिलमपि जगज्जालमाग्रावितमिति कथा श्रूयते ॥

"For of old, *Paraśurāma*, as the pupil of the god *Īśvara* in *Dhanurveda*, wished to emulate *Skanda*, and discharged his dart against the mountain *Kraunca*, which burst as easily as if it were a ball of clay. At that moment, and from the cleft in the rock so formed, poured out the milk-ocean of *Paraśurāma's* glory by which the whole world was inundated. So runs the story."

This is fine language but the last words are disappointing. The scholar recounts what has been stated above about *Paraśurāma's* adventure and adds '*so it is related or so runs the story*'. *Mallināthasūri* hardly ever says anything without citing authority. It is to be regretted that herein he has failed to do so.

This passage is extracted in the *Vāchaspatyam*. The author of that dictionary was led to think that the *Kraunca* near the Himālaya is the *Kraunca* of *Paraśurāma's* story: and that the *Kraunca* associated with the *Skanda* legend is the mountain in *Kraunca-dwīpa*. But if he had paid more attention to the extract from the *Bhārata*, his note would have remained unwritten or would have included some discussion. The *Bhārata* passage speaks of the same *Kraunca* as the poet had in his mind, but it is against this very *Kraunca* that the attack of *Skanda* is led in the *Bhārata* passage.

This is how it stands.

(1) The *Kraunca* near the Himālaya is the son or grandson of Himālaya—a fact which is relied on in the *Vāchaspatyam* to differentiate this *Kraunca* from the other, in ignorance of the assertion of identical genealogy in the case of the other.

(2) In the case of the other *Kraunca* also, the verse is repeated:

तेन हंसाश्च गृध्राश्च सदा गच्छन्ति मानसम् ।

'that the swans and the kites make their way through the aperture.'

So then there are two *Krauncas*, one in the *Kraunca-dwīpa* and the other near the Himālaya; both of the same name, both sons of *Maināka*, possibly twins, and grandsons of *Himavān*; both treated in the same way, one by *Skanda*, the other by *Paraśurāma*; and each containing the only passage for

swans and kites from the south to the north. But there is no record anywhere that Maināka had two ill-fated sons of the same name. This is too much to believe as true. A reasonable way of understanding the situation is to treat the one legend as nothing more than a reflection and local appropriation of the other. To those whose knowledge of Purāṇic inventions is limited, a local appropriation would hardly appear as such and would otherwise be welcome as a historical association near at hand. There is hardly a country where the descent of the Ark after the flood was not localized: and where a hole, pit, or cavern, was not appropriated as the passage through which the waters found their exit. There is hardly a place in southern India where Rāma and Sītā did not spend some days of their exile. There are hot springs where Sītā bathed, and there are rocks on which she exposed her clothes to dry.

Skanda was the son of the god Śiva, and Paraśurāma was the pupil of the god. It is easy to perceive that, to some extent, a confusion of ideas may have prevailed. If it is otherwise, it is difficult to state from the material now available whose adventure was the original of the story.

There is one fact which the reader should know, before taking leave of Paraśurāma, that in Indian myth he is the only divine hero armed with the double-headed axe or hatchet, as his very name implies. This brings him into close kinship with *Sandan of Cilicia*, the god of the double-headed axe, so well-known to the scholars who have exhumed the buried history of the Hittites. Cf. The Zeus Labrandeus of Crete and Coria.

The language used in the Purāṇic texts does not make it clear whether the injury inflicted on the hill by Skanda was the creation of a cavity in it or whether it was a splitting of the rock. The words used are more suggestive of the latter than of the former idea. Either notion is satisfied by the existing conditions in Lycia and Cilicia. The Tamil Purāṇa is clear about the hole or cavity, which is true in the case of the Chimæra as a natural phenomenon. Cilicia furnishes examples of the other situation.

A mountain rock, split or rent asunder from fundament to summit and exhibiting a perfect cleavage, so that the sundered parts would make the rock entire again if they could be pressed together, is certainly calculated to fire the imagination of any onlooker. What may be due to the forces of nature, as volcanic agencies or seismic disturbances or the action of thunderbolts, is, not unnaturally, attributed to divine agency, the god or gods for the time being of the races inhabiting the country.

The Pyramus river (Jihun) pierces the Taurus at a certain point on its way down to the Cilician plains. Speaking of the mountain and the river at that position, Strabo says:—

“ There is also an extraordinary fissure in the mountain, through which the stream is carried. For, as in rocks which have burst and split in two parts, the projections in one correspond so exactly with the hollows in the other, that they might even be fitted together, so here I have seen the rocks at the distance of two or three plethra, overhanging the river on each side, and nearly reaching to the summit of the mountain, with hollows on one side answering to the projections on the other. The bed between (the mountains) is entirely rock ; it has a deep and very narrow fissure through the middle, so that a dog and a hare might leap across it. This is the channel of the river.” *

Small wonder if such an extraordinary fissure should be considered as the achievement of the god of the *hatchet*.

Shifting the scene westwards, we have the evidence of Sir Charles W. Wilson in the following words† :—

“ The Cydnus (Tersus Chai) is formed by the junction of three streams, which rise in deep gorges at the foot of the Taurus, and unite, before they enter the plain, about two miles north of Tarsus.

“ All three streams pass in places through narrow clefts, with lofty inaccessible sides, which look, when seen from a distance, *as if they had been cut in the limestone rock by some gigantic sword.* ”

What was a figure of speech or poetical imagery to a cultured Englishman was a sacred reality to the primitive mountaineer.

I have not been able to find out how the name Kraunca came to be applied to this Dwīpa. Kraunca in Sanskrit is the name of a water-fowl, of the species Heron or Crane. It has a long bill which may be compared to a projecting headland or promontory. The idea may have been to represent by the word Kraunca, a peninsula, such as Asia Minor is. I cannot say more from my present knowledge. It is probable that Kraunca as the name of a mountain was intended for the Taurus or a portion of it. The Sanskrit Purāṇas seem to point more towards Cilicia Aspera. But the Tamil Purāṇa and the extract from the Mṛgendra-saṃhitā appear to direct us distinctly to Lycian soil. Whichever way we may look at it, there can be no difficulty in finding that the title Kraunca-dwīpa was meant for Asia Minor.

Chapter X.

The descriptive detail given in the Purāṇic texts of the geography of this Dwīpa, as in the case of every other Dwīpa, includes the names of districts, mountains, and rivers.

* Strabo. Translation by Hamilton and Falconer, Vol. II, pp. 279—280.

† *Notes on the Physical and Historical Geography of Asia Minor*, by Col. Sir Charles W. Wilson. *Proceedings of the Royal Geographical Society*, p. 305 *et. seq.*, Vol. VI, N. S. at p. 316.

A comparison of the available texts shows variations among some of these names. It should be noted that these several passages agree as to much. The variation in the names is easily explained in some instances on the footing of scriptory changes. In some other cases such explanation cannot be suggested.

The districts of this Dwīpa are thus named:* Kuśāla, Manonuga, Ushṇa, Prāvaraka, Andhakāraka, Muni, and Dundubhiswana. They are given *in designed sequence depending on contiguity*. Starting from the north-west, in the neighbourhood of the Thracian Bosphorus, we proceed eastwards, then march southward, ascend in the west towards the north, and then link up with the starting point.

(To be continued.)

* कुशलः, मनोनुगः, उष्णः, प्रावरकः, अन्धकारकः, मुनिः, दुन्दुभिस्वनः ॥

STUDIES IN BIRD-MYTHS, No. VII.—ON AN ÆTIOLOGICAL MYTH ABOUT THE BRAHMINY DUCK.

BY SARAT CHANDRA MITRA, ESQ., M.A., B.L.

THE Brahminy Duck or Ruddy Sheldrake (*Casarca rutila*) is very well known to the people inhabiting all parts of India. The people of Bengal (excepting those inhabiting its eastern parts) call the males of this species of duck by the name of *Chakā*; while the females are called by that of *Chakī*. But to the inhabitants of Eastern Bengal, it is known by the name of *Bugri*. The Hindi name for the male birds of this species is *Chakwā*; while that for the females is *Chakwī*. In Hindi, this duck is also called by the names of *Surkhāb* (or the “Red-eye”) and *Lāl* (or “the Red bird”). The Marāthi name of this bird is *Chakrawāk* which, along with its Bengali names of *Chakā* and *Chakī*, and its Hindi names of *Chakwā* and *Chakwī*, appears to be corruptions of its Sanskrit name *Chakravāka*. It would thus appear that this species of duck in the aforementioned three languages are almost identical.

This bird is found in Central Asia, Tibet, Persia, Mesopotamia, Asia Minor, the entire northern portion of Africa, and India.

This species of duck is found in great numbers, during the cold weather, in many parts of India. They frequent all rivers whatever may be their dimensions. During the day-time, they usually sit in pairs on the sands by the banks of the rivers. Though they regularly frequent rivers by day or night, they are also often met with in the vicinity of tanks and marshes. Mr. W. T. Blanford says: “It is difficult, so long as one is on an Indian river, to get out of sight of these birds or out of hearing of their peculiar clanging bisyllabic call or alarm-cry, which is uttered frequently on the slightest excuse.”

Like all geese, they feed partly upon vegetable food in the shape of grains and crops, and partly upon animal food consisting of molluscs and crustaceans. They swim well but are not very frequently seen upon the water. The story that is current about their feeding upon carrion is very improbable. But some naturalists are of opinion that they may visit carcasses for the purpose of feeding upon the insects that are to be found on the same.

The Brahminy Duck or Ruddy Sheldrake is looked upon by the people of Burma as an emblematic bird which is deserving of special honour. It is regarded as sacred in Mongolia. Though it is not considered sacred in India, there are many myths or legends current about it in this country. Among these myths is the following ætiological one which accounts for the evolution of this bird and which is current in Southern India :—

It is believed by the people of Southern India that, as a punishment for the commission of some sin or other, a couple of lovers were all of a sudden metamorphosed into a pair of Brahminy Ducks and that they were doomed to spend their nights on the opposite banks of a river. It is further believed, in that part of India, that, as the result of this curse, the males and the females of this species of duck pass their nights on the opposite banks of a stream or river and plaintively call, across the water, to one another. The male bird enquires of the female: "*Chakwī!* May I come?" The latter replies: "No, *Chakwā.*" Then again, the female Brahminy Duck enquires of her mate: "*Chakwā!* May I come?" The latter answers back to her by uttering the call-note: "No, *Chakwī.**"

There are various other myths current in India in connection with the Brahminy Duck. For instance, the popular belief that the male *Chakā* and the female *Chakī* remain together during the day-time, and become separated from one another during the night and that, in order to give vent to the pangs of separation from which they suffer, they call plaintively to one another during the whole of the night-time, has been current among the Hindus in all parts of India, from the remotest antiquity. There are numerous allusions to this belief in Sanskrit literature. There are also references to it in many Bengali works. It is stated that, on one occasion, a fowler forcibly kept a male Brahminy Duck and a female one immured together in a cage during the night. Seeing their joyful behaviour towards one another at that time, a Bengali poet wrote a couplet of verse of which the English translation runs as follows:—

"The *Chakā* (or the male Brahminy Duck) says to his female mate: 'O my darling *Chakī!* It is a matter of the greatest delight to us that, after enduring so much misery, we are experiencing so much happiness.'"

This belief does not appear to be a mere poetic fancy but is based on actual fact. For it is stated that many persons have observed that, during the day-time, the male and female Brahminy Ducks remain together, and that many persons have heard that, during the night, the male bird remains on one bank of a river and calls to its female mate which stays on the other bank thereof. Even European ornithologists in India have heard, and placed on record their impressions of the heart-rending call-notes of the male and female Brahminy Ducks separated from one another during the night-time, as will appear from the following testimony of one of these observers:—

"Who is there, when travelling by river during the winter months, that has not heard at night the warning call of *kwarko*, *kwarko* repeated at

* *Vide the Calcutta Review* for July 1901 (No. ccxxv), Art. VI—*Bird-Mythology*, by R. R. P. Pages 71—75.

intervals?—This call seeming often to come and being answered from opposite banks.”—*Small Game Shooting in Bengal*, by “Raoul”, page 93.*

As the Brahminy Ducks are also found in Tibet, the belief about their conjugal fidelity is also current among the Tibetans. The renowned Swedish explorer Dr. Sven Hedin, when travelling in Tibet, came across an instance of this belief, which he has placed on record in the following passages of his *Trans-Himalaya* :—

“There was no spring as yet. But the wild geese were on their migration, and when Tubges once shot a gander at a neighbouring brook, Oang Gye came to complain to me. He was quite overcome at this brutal murder, and could not conceive how my servant could be so heartless and cruel.

“You are right,” I answered; “I am myself sorry for the wild geese. But you must remember that we are travellers, and dependent for our livelihood on what the country yields. Often the chase and fishing are our only resources.”

“In this district you have plenty of sheep. Is it not just as wrong to kill sheep and eat their flesh?”

“No!” he exclaimed, with passionate decision; “that is quite another matter. You surely will not compare sheep to wild geese. There is as much difference between them as between sheep and human beings. *For, like human beings, the wild geese marry and have families. And if you sever such a union by a thoughtless shot, you cause sorrow and misery. The goose which has just been bereaved of her mate will seek him fruitlessly by day and night, and will never leave the place where he has been murdered. Her life will be empty and forlorn, and she will never enter upon a new union, but will remain a widow, and will soon die of grief. A woman cannot mourn more deeply than she will, and the man who has caused such sorrow draws down a punishment on himself.*”

“The excellent Oang Gye was quite inconsolable. We might shoot antelopes, wild sheep, and partridges as much as ever, if only we left the wild geese in peace. *I had heard in the Lob country similar tales of the sorrow of the swans when their union was dissolved by death.* It was moving to witness Oang Gye’s tenderness and great sympathy for the wild geese, and I felt the deepest respect for him. Many a noble and sensitive heart beats in the cold and desolate valleys of Tibet.”†

[The wild geese referred to in the preceding extracts from Dr. Sven Hedin’s *Trans-Himalaya* are, most likely, the Brahminy Ducks. It is a pity that this renowned explorer has not given the scientific name of the wild geese referred to by him.]

* *Vide* the Bengali monthly magazine *Pravasi* (published from Calcutta) for Falguna 1329 B. S. (February-March 1923 A.D.) page 660.

† *Trans-Himalaya*. (Discoveries and Adventures in Tibet.) By Sven Hedin. In two Volumes. London: Macmillan & Co., Ltd., 1909. Vol. II, pages 362—363.

It would appear that the primitive myth-maker of Southern India has made use of the love and affection of the human lover for his or her sweetheart in composing this myth which accounts for the evolution of the Brahminy Duck.

It will not be out of place to point out here that a close analogue of the afore-mentioned South Indian ætiological myth is current in Albania (in Europe). But the Albanian legend accounts for the origin of the cuckoo, as will appear from the following brief abstract of the same:—

“Once upon a time, there lived two brothers and a sister. By the merest accident, she killed one of her brothers by piercing him to the heart with her scissors. She and her surviving brother mourned the death of their second brother for such a length of time and with so much vehemence that they were metamorphosed into two cuckoos. During the night, the surviving brother cries out to his deceased one by uttering the call-notes: ‘*Gjou, gjou.*’ While the sister during the day-time, addresses her dead brother by crying out: ‘*Kuku, Kuku*’ which means “*Where are you?*” *

* *The Calcutta Review* for July 1901 (No. ccxxv), Art. VI.—*Bird-Mythology*, by R. R. P. Pages 72-73.

NOTES.

Holi, Dolyatra, Kamapandiya, Kamdahanam.

BY E. H. L. SEPPINGS, ESQ.

WITH reference to the questionnaire issued by Mr. Nirmal K. Basu in connection with the festival variously known as "Holi, Dolyatra, Kamapandiya, Kamdahanam", and published on pages 95-96 of your Journal for October, 1924, I enclose below a copy of an article on the festival taken from the 24th volume of the *Asiatic Journal* for July-December 1827, as it affords information on many points set out in the questionnaire, and may prove of interest as it records observances and practices connected with the festival in vogue a hundred years ago.

I lived in the Mysore State many years ago and remember the *Holi habba* or *pandike* being celebrated in the town of Mysore. As well as I can recall occurrences, Brahmins took no part and those who participated in the ceremonies were for the most part Hindus from other parts of India, low caste Hindus of the Mysore State, composed entirely of young men and boys who gathered round bonfires of rubbish, singing and dancing, the actions of the dance and words of the songs being obscene. A pole on which was mounted an old sieve usually stood in the centres of these fires, together with, if I remember aright, old brooms and shoes. The women-folk avoided the sites and apparently kept away as they were never in sight, especially after the fires were lit and the dances and songs were in progress.

There is no similar or like festival among the Burmese people, but Indians here from the northern parts of India celebrate the festival to some extent by strolling in the streets in batches, their clothing stained with red fluid and their faces and heads smeared with red powder, singing obscene songs which all respectable Hindus object to; these songs grow in intensity and are accompanied by most lewd actions should any unfortunate Indian woman come in sight. Of recent years this nuisance has been protested against in public prints and police interference has been invited. The majority of the minstrels very often appear to be under the influence of some intoxicant. No bonfires are, however, lit, nor is any public ceremony performed.

The festival is a moveable one, taking place about the full moon of March in India, but in some parts would seem to have become combined with ceremonies attached to Krishna festivities. Thus, in a note to Wilson's "Select Specimens of the Theatre of the Hindus" (1835, ii, 264), citing the Bhavishyottara Purana, it is explained that many of the Hindu festivals have been displaced: the festival known as the Holika, and that now termed the Dola Yatra (or 'swinging of the Gods') are combined, and further it would appear "the Dola Yatra and Rath Yatra have also been displaced, and in Bengal, at least, transferred to festivals appropriated to Krishna alone, in the months of Jyeshtha and Ashadha, June—July."

It is probably due to these displacements that the origin of the Holi has come to be confused. One account attributes the festivities as being instituted on the people becoming desirous to rid themselves of the depredations of Holikā, a female demon, the most wicked of her race. This ogress had cultivated a special taste for the flesh of infants, and the world groaned under her greed, for she spared no town or village in her daily visits. The people thereon complained to the king of the demons (Rakshasas) of her doings and thus incited his compassion, so that he reduced the fare of the ogress to an infant a day, leaving the people to arrange among themselves as to how this should be carried out. Esteeming this a great favour, it was resolved that each house should deliver a child each day. Time went on, till the turn came for an only child, an orphan, to be delivered to Holika. The loss was an irreparable one to the grandmother and her grief was great, for no other male of the family remained, and her anguish attracted the attention, and excited the sympathies, of a pious beggar. Being a holy man, he determined on setting the world free from Holika's ravages. So calling the old woman aside, he assured her that if she followed the advice he would give her, Holika would not live to see the morrow on which the grandchild was to be delivered. "Vile language, abuse and indecencies, lewdly and vehemently used, are fatal to Holika, thus has it been decreed by the Gods. So, when she comes to claim thy grandchild, get all, young and old, who will sully their tongues with filthy language and not blush to use obscenities by signs and symbols to meet her without the least fear and vie with each other in crying her down with fulsome ribaldry and the bawdiest of obscenities. On these sounds and signs being perceived by Holika, she will fall dead." No time was lost. The news spread rapidly. Faith was great in those days. The elders urged the youths and children to their utmost, and when Holika came death greeted her on all sides in the vilest terms that tongue could be laid to in song and abuse, and in signs and symbols that hands and action could shape. Holika's hurrying feet were stayed, death took her by surprise, darkness fell around, bonfires were lighted in which her remains passed away, and lest she should rise again, the lewd dance and song and abuse are repeated in reel and rout in joy of memories that passed when Holika died.

Among the Tamilians the festival is known as *Kaman pandike*, and its origin is attributed to the occasion on which Kaman, the Hindu Cupid, roused the ire of Siva for disturbing him in his meditations and devotions, by "intoxicating him with love" for Parvati who tended Siva at *tapas*. For a moment Siva forgot all else but his embrace of Parvati. Angered that he should have thus forgotten the penance he was engaged on, Siva looked for the cause and spied Kaman laughing: Love triumphant o'er all pious action! Siva's third eye flashed fire and ere the reason for the interruption could be told, Kaman fell reduced to ashes. The world suffered under the thralldom of Tarika, the demon king of Tripura, and even the abodes of the celestials were invaded, so that the entire management of the universe was usurped by Tarika. His arrogance becoming intolerable, Siva alone could secure deliverance. But Siva was engaged in austerities in which none but Kaman dared to interfere. So Kaman delivered the universe by causing Siva to

forget himself with Parvati, and from that union was born the War-god who slew the demon king. Kaman thus sacrificed himself to redeem the world.

In both the legends deliverance is sought from the powers of evil and fire is used apparently for its purificatory virtue. The subject of fire-festivals of Europe is discussed in Chaps. LXII and LXIII of *The Golden Bough*, by Sir James George Frazer, abridged edition (1924), and confirm the conclusions arrived at by the writer of the article taken from the Asiatic Journal and reproduced below.

The Holi, or Dola Yatra.

THE Hori, Holi, or Holika, properly speaking, is not observed in Bengal; but a festival of a similar character, and with much the same observances, is held—the Dola, or swinging of the infant Krishna. As observed in Bengal, this festival is considered one of the twelve great Jatras held in highest veneration by the Vaishnava sect, or followers of Vishnu, agreeably to the sect of Chaitanya. It is not, however, restricted to them, but partaken of by every class of Hindus: neither is it limited to the present occasion, but is repeated at different periods of the year, according to local usage or individual convenience.

As celebrated at this season, it commences on the 14th lunar day of Phalgun (13th March). The head of the family fasts during the day; in the evening fire worship is performed, after which the officiating Brahmin sprinkles upon the image of Krishna, erected for the purpose, a little red powder, and distributes a quantity amongst the assistants. This powder, termed phalgu or abir, is made of the root of a species of curcuma, and of sapan wood. After this ceremony is concluded, that called chanchar takes place, or a bonfire is made for burning the holika, a kind of Guy Fawkes' figure, made with bamboos and straw. In the country, the bonfire is made in a place without the village, and the figure is borne to the spot by Brahmins or Vaishnavas in regular procession, attended by musicians and singers. When arrived at the place where the pile has been previously prepared, the image is placed in the centre, and the priest worships it and circumambulates it seven times, and then sets fire to the pile, on which the assistants immediately return home. The rest of the night is spent in festivity. Before daylight on the morning of the 15th, the image of Krishna is conveyed to a place where a swinging bed or cradle has been erected, and placed in the cradle, which is set in motion two or three times at gun-fire: the same is repeated at noon, and again at sunset. During the day the members of the family and their visitors amuse themselves with red powder and rose-water, through syringes, as well as with their hands. The place where the swing is set up is a place of particular peril; for a week boys and persons of low caste also, take a delight in scattering red powder of any kind over passengers in the streets, accompanying it with insulting language. In the villages, persons of respectability, and females particularly, are liable, for several days, to gross abuse, and even to personal ill-treatment, if obliged to leave the house, and consequently all intercourse is at this time suspended.

The people of Orissa differ from the Bengalee in the disuse of the bonfire: they have the swinging, and the scattering of the abir, but they have also some

peculiar usages. Their gosains carry in procession the image of the juvenile Krishna to the houses of their disciples and patrons, to whom they present some of the red powder and utr, and receive presents in return. The caste of Gopas, or herdsmen, particularly observe this holiday, and renew their own dresses and all the equipments of their cattle: they also bathe them, and paint their foreheads with sandal and turmeric: they themselves collect in bodies and run about as if wild with joy, carrying slender sticks in their hands, and the leaders occasionally turning round to face those who follow them, they strike with sticks together, making a clatter, expressive, they imagine, of exultation, singing songs at the same time in celebration of Krishna.

In Hindustan the Holi is held to begin upon the Vasanta Panchami, and to last for about six weeks. The actual celebration of it rarely commences till about ten days prior to the full moon of Phalgun, and is then limited to the wearing of new apparel, red or yellow, feasting, and making merry. On the eighth day of the light half, or a week before the full moon, the festival is fully commenced. Images of Krishna are erected and worshipped, smeared with red powder, and sprinkled with liquid of the same dye; and the people of the villages and small towns begin to collect upon a spot in the vicinity, cowdung and other fuel: the headman of the village commences, and all then contribute to the pile whatever they can lay hold of, stealing, for the purpose, the stakes of fences, gateways, doors, and articles of household furniture, if not prevented, and if these things are once added to the heap the owner cannot recover them, and it is a point of honour not to complain. During this time the people wander about the roads and streets, scattering red powder, singing, dancing, and annoying passers by mischievous tricks or abusive language. On the 14th the crowd assembles round the Kanda, or pile, which is consecrated, and lighted by an officiating Brahmin; when the pile is in a blaze the spectators approach, as if to warm themselves, an act that is supposed to avert ill-luck for the rest of the year; at this period their frolics become outrageous, and it is not safe for any decent person to approach them. This extravagance continues for two days. When the pile is consumed the ashes are thrown into water.

In the south of India the rite is also that of the Dola Jatra, but it offers some peculiarities. The image of Krishna is committed to a swing, and red powder and rose-water scattered about as elsewhere. A bonfire also is made, but the effigy is supposed to represent Kamadeva, the Hindu god of love, and the combustion is emblematical of his having been burnt to ashes by the fire from Siva's eye when incensed by the little deity's wounding him with his shafts, and inspiring him with love for the daughter of Himalaya. The bonfires are made usually in front of the temples of Siva or Vishnu, at midnight, and the ashes are distributed amongst the spectators. In many places worship is offered to Kama-deva; similar extravagances are practised in southern as in western Hindustan.

The season at which this festival occurs, the frantic merriment by which it is characterized, the scattering of red or purplish coloured powders, indicative of the blossoms which now begin to show themselves, and even the bonfire, which may

express the return of warmth, leave no doubt of the original purpose of the celebration, and designate it as a festival typical of the return of genial temperature, which there is no doubt was once common to all the pagan world, and of which Christianity long retained marked traces, in May-day games and Beltane bonfires. We find, indeed, the practices which now prevail among the Hindus described in works of some antiquity as appertaining to the Vasantotsava, or spring festival, which comprised various observances, as the worship of the dona flower, and the swinging of the gods, and their procession in cars, or the Dola and Ratha Jattras, and seems to have been wound up with the worship of the god of love. It may be doubted if the term Holika occurs in any work of unquestionable antiquity. The practice of later times has lost sight of the meaning of the festival, dislocated some of its constituent parts, and removed them to other periods; has appropriated the celebration to the honour of a different divinity, or the infant Krishna, and has invented new legends to account for the ceremonial. Thus the effigy which is burnt is supposed, in general, to represent a female demon who sought to destroy the life of the infant Krishna, but was slain by him. After death, however, her body was not to be found, and the Gopas, or cowherds of Mathura, therefore, burnt her in effigy. In the Bhavishyottara Purana, however, the effigy is said to represent a female fiend named Dhondha, who in the days of Raghu made a practice of killing children. Raghu, by the advice of Vasishtha, instituted the bonfires, and the songs and merry-making of the people, to arrest her malpractices, and accordingly the particular efficacy of this rite is the preservation of infant life; whence, also, its more ready transition to the worship of Krishna. This appears, however, to have been an after-thought, and the original practice, which was equally common amongst all the nations of antiquity, had no relation either to Krishna or a witch. The songs that are sung so vociferously at this season have little to recommend them except their brevity; the following are some specimens: each consists of but a single stanza and a burthen, and is repeated without end; they all allude to the juvenile Krishna, and are supposed to be sung by some of his female companions.

1. I met in the path the lord of Madhuvan; how can I go to fetch water? if I ascend the roof he pelts me with pellets of clay; if I proceed to the river he scatters over me the red dye; if I visit Gokul he covers me with the tinted dust; thus he drives me distracted; I met in the path, etc.

2. Oh friend, proud as you are of your youth, be careful of your garments; the month of Phalgun maddens those whose lovers are far away; oh friend, etc.

3. My bodice is wet through; who has thrown the tinted water upon me? It is Kanhaiya, the son of Nanda. It is the month of Phalgun; my bodice, etc.

4. Oh Lord of Vruj, you gaily sport to the merry sound of the tabor, and dance along with the nymphs of Vrindavan. Oh Lord of Vruj, etc.—*Calcutta Government Gazette, March 22.*

(Taken from the *Asiatic Journal*, Vol. XXIV, July-December, 1827.)

A Further Note on the Author of the Nalodaya.

BY A. S. RAMANATHA AVYAR, ESQ., B.A.

IN the Mythic Society's Journal for July 1923, I have shown that the three *yamaka-kāvya*s, the *Yudhishthiravijaya*, the *Triṣṭupradahana*, and the *Nalodaya*, were composed by a Kēraḷa poet called Vāsudēva who lived in the first half of the ninth century A.D., as a contemporary of the Chēra king Kulaśēkhara and his successor Rāma.

No. 11815 of the *Descriptive Catalogue* of Sanskrit Manuscripts, (Madras, 1918) is an alliterative *kāvya* of six chapters describing, as its name *Saurikathōdaya* indicates, the main incidents of Krishṇa's eventful life. In one of its prefatory verses, its author who has chosen to remain anonymous, has referred to himself by the single pronoun *aham* :—

अवनतदेवं देहं पुंसः परमस्य सम्पदे वन्देऽहम् ।

यं पदमभ्युच्यन्ते यतयो यत्तत्त्वसुत्तमं बुध्यन्ते ॥ ;

but its well-informed commentator, Nīlakaṇṭha, has identified this 'I' with poet Vāsudēva :

अहमिति कविरात्मानं निर्दिशति—वासुदेवनामाऽहमित्यर्थः ।

The author has also eulogized a king named Rāma in another verse of the same preface :

जयति सुधामा रामः क्षितिपालः काव्यवीरुधामारामः ।

दधदिभमस्तकलीलामंसेन विभर्ति योऽयमस्तकलीलाम् ॥ ;

and Nīlakaṇṭha has appropriately equated this Rāma with the poet's royal patron and contemporary.

These apart, the style of this poem is similar to the one handled by the accredited author of the two *kāvya*s, the *Yudhishthiravijaya* and the *Triṣṭupradahana*, and one is therefore justified in attributing this *kāvya* also to the handicraft of Vāsudēva's alliterative stylus.

Thus, all the above-mentioned four *yamaka-kāvya*s may fitly be considered as the work, in the following order of literary sequence—(i) *Yudhishthiravijaya*, (ii) *Triṣṭupradahana*, (iii) *Saurikathōdaya*, and (iv) *Nalodaya*, of this Vāsudēva, a literary Don Quixote who has ridden his Rosinante of alliteration with apparent ease and passable grace. Our thanks are especially due to the two Sancho Panzas of commentators, Nīlakaṇṭha and Viṣṇu, but for whose helpful comradeship and skilful pilotage, our attempts at comprehending the author will be about as effectual as the erratic knight-errant's own jousts with four-armed wind-mills !

As regards the unfinished grammatical work called the *Vāsudēva-vijaya*, which is attributed to Vāsudēva and which was completed by Mēlputtūr Nārāyaṇa-Bhaṭṭādiri (c. A.D. 1590), the following extracts from No. 11538 of the same *Catalogue* are of interest :—

अथ वासुदेवकविविरचितस्य काव्यरत्नस्य शेषपरिपूरणाय चिकीर्षितं प्रतिजानीते ।

उदाहृतं पाणिनिसूत्रमण्डलं प्राग्वासुदेवेन तदूर्ध्वतोऽपरः ।

उदाहरत्यथ वृकदोदितान् धातून् क्रमेणैव हि साधवाश्रयात् ॥

वासुदेवो नाम केरलेषु पुरुवनग्रामजन्म कश्चित् द्विजन्म ।

The *Gajēndramōksha*, a work ascribed to a certain Vāsudēva, has this colophon :—

यस्य (the god at Puruvanam) च भाजकरूपप्रसादतो विश्वविततविमलयशाः

यमयासास सुमेधाः कथासुधां वासुदेवकविः ।

but his identity with the author of the four *kāvya*s is indeterminate, though quite possible.

A Note on Bhaskara-Ravivarman's Date.

BY A. S. RAMANATHA AVVAR, ESQ., B.A.

THE date of this Chēra sovereign, who has figured in many lithic records in the Travancore State at Tirukkaḍittāṇam, Peruneyil and Tirukkākkarai and who was also the regnant king at the time of the Tirunelli and Cochin copper-plate grants, was till now a matter of conjecture, based purely on palæographical and astronomical considerations. As these data were inconclusive and were at best only approximations, there had been extremely divergent views held by scholars in regard to the time when this king was considered to have reigned as the suzerain lord of the Chēras. The dates that some of them had attributed to this king varied from A.D. 169 to 774; but, as the Vaṭṭeluttu script of his records approximated to the alphabet employed in known inscriptions of the tenth century A.D., Dewan Bahadur L. D. Swamikannu Pillai, M.A., LL.B., I.S.O., had calculated his initial date as A.D. 978-9, from the details furnished in some of his epigraphs.

But apart from these considerations, there had not been available till now any specific and indisputable facts that could establish this date for Bhāskara-Ravivarman as an unshakable chronological certainty. The *coup-de-grace* to this debated date is now possible to be given from an interesting inscription, which I have examined at Tirukkaḍittāṇam. This record, though incomplete, is very valuable, in that it establishes a triple synchronism. It reads thus :—

ஸ வரி ஸ்ரீ கோச்சிரி பாற்க்கரணி ரவிவர்மர்க்குச் செல்லாநின்ற யாண்டி ரண்டின்னெ
வ த ஸ்ரீ[ன]மார்த்தாண்டர் நன்றுமுநாடு வாழத் திருக்கடித்தானத்து உத்திரகணத்தாரும்
நிழலும் பணியுங் கூடி வேண்டுடைய சிரிவல்லங்கோதைவர்மர் அமைச்ச உத்திர விழா
ஆட்டாண்டுங் கும்பை ஞாயிற்று கார்த்திகை கொடிநாட்டி ரியதி முந்நாழிநாழியால் நூற்று
நாழி அரிகொண்டு அட்டி யூணுவ் கறியும் நெய்யுமொண்டாய்ப் பிராமணரை ஊட்டிப் பத்து
கூத்து மாடிச்சு பணிமானிடத்தின்கு பண்டு கொடுக்கும் அரிசியும் கொடுத்து நாலாயிர
ஞாழியில் வெற்றிலை கொண்டு ரியதிக்கு மிட்டு பூதபலியுந்தாகி உத்திரத்தினு.

From this we learn that [Gōvarddhana]-Mārttāṇḍavarman of Nanṇūlai-nāḍu and Śrīvallabhan-Kōḍai of Vēṇāḍu were both of them contemporaries of the Chēra king Bhāskara-Ravivarman, under whom they were feudatories. From his Māmbaḷḷi copper-plate grant, Śrīvallabhan-Kōḍai, the ruler of Vēṇāḍu, is known to have been living in Kollam 149, corresponding to A.D. 973, November 10; and there is reason to believe that this year fell in about the beginning of his reign. As he has been mentioned as the vassal of the Chēra king Bhāskara-Ravivarman, the initial date of the latter which has been independently calculated to have possibly been A.D. 978-9 now receives indisputable confirmation. This, no doubt, furnishes a very important landmark in Chēra chronology; but the question as to whether there were two kings of the name of Bhāskara-Ravi, whose existence is vaguely inferable from the irreconcilable positions of Jupiter in the several records hitherto found, has yet to be decided.

From another inscription from Tirukkaḍittāṇam dated in the second and twelfth year of Bhāskara-Ravivarman, we learn that Gōvarddhana-Mārttāṇḍavarman who has been mentioned as the governor of Nanṇūlai-nāḍu was put in charge of Vēṇāḍu also. It therefore follows that Vēṇāḍuḍaiya Śrīvallabhan-Kōḍai of the Māmbaḷḷi plate (A.D. 973) must have been administering Vēṇāḍu till about the fourteenth year of his overlord, and that Gōvarddhana-Mārttāṇḍa must then have stepped in as his successor and continued to rule till at least the date of the Cochin copper-plate of the second and the thirty-sixth years of Bhāskara-Ravi, wherein he figures as one of the important signatories of the Jewish charter.

A tentative list of the Chēra kings of the ninth and tenth centuries A.D. may be drawn up, as under, subject to such corrections as future finds may render necessary:—

King.	Approx. date.	Latest regnal year found.
Rājaśēkhara (Talamana plate)	800—825	12
[Kulaśēkhara (the Ālvār)]	825—840]	18 (Traditional)
[Rāma	840—870]	..
Sthāṇu-Ravi	870—900	17
Vijayarāgaḍēva	900—935	..
[Kulaśēkhara	935—955]	..
Indu-Kōḍaivarman	955—971	16
Bhāskara-Ravivarman I.	978—1036 (?)	58 (?)
” II.
Ravi-Rāma	..	3
Kulaśēkhara-Chakravartin	1089—1102	13

REVIEWS.

A Calendar of the Court Minutes, etc., of the East India Company. (1664-1667.)

BY ETHEL BRUCE SAINSBURY.

Clarendon Press, Oxford.

COURT minutes of the East India Company are a series of publications comprising the documents relating to the transactions, etc., of the Company from 1635 to 1667, published in seven volumes, under the patronage of His Majesty's Secretary of State for India in Council. Each volume contains a most useful introduction and notes by Sir William Foster, C.I.E. Sir W. Foster has rendered a distinguished service to all students of history and of political institutions by undertaking and completing the editing of 'The Letters to the East India Company' (1602-17) in six volumes and 'The English Factories in India' (1618-1664) in eleven volumes. These companion volumes together give us in some nine thousand pages the most important documents of the period that terminated in the British naval supremacy in the East after the defeat of the Dutch. The volume under reference begins in 1664 when the Court of Committees had to complete the lading and despatch of the season's shipping. We have then an account of the negotiations relating to the question of damages between the English and the Dutch—the war between the two countries. The enormous dividend declared from time to time to the shareholders by the Company, private trading by the Servants of the Company in their own behalf, mutual jealousies and conflicts of interests between the Servants of the Crown and the Company's Servants, the Company's loans to King Charles for the purposes of the war with the Dutch, the Great Plague, the Fire of London, the transfer of Bombay by the Crown to the Company, the Peace between the English and the Dutch, the question of the liabilities of the Company to pay certain duties on calico as if it were linen to the Crown are amongst the matters referred to in detail in the documents published in the volume. Miss Sainsbury must be congratulated on the patience and skill bestowed in preparing the calendar of documents, in compiling the full index and in other ways seeing to the completion of the work.

S.

List of Subscriptions and Donations received during the Quarter ending 30th September, 1925.

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	F. R. Sell, Bangalore ..	XVI ..	5	0	0
	Rev. Aucouturier, Bangalore ..	do ..	5	0	0
	C. Holburn, Bangalore ..	do ..	5	0	0
	Reverend A. R. Fuller, Bangalore ..	do ..	5	0	0
	Rev. A. Lobo, Bangalore ..	do ..	5	0	0
	Superintendent of Archæology, Gwalior ..	do ..	3	4	0
	Sarat Chandra Mitra, Calcutta ..	do ..	3	0	0
	C. S. Dorasamy Iyer, Bangalore ..	do ..	5	0	0
	T. Singaravelu Mudaliar, Bangalore ..	XV ..	5	0	0
	The Very Reverend E. Studer, Bangalore ..	XVI ..	5	0	0
	Reverend A. L. Olson, Bangalore ..	do ..	5	0	0
	G. H. Krumbiegel, Bangalore ..	do ..	5	0	0
	Dr. M. Krishnamachari, Rajahmundry ..	XV ..	3	0	0
	Rao Bahadur P. R. Vengu Iyer, Bangalore ..	XVI ..	5	0	0
	P. Sampath Iyengar, Bangalore ..	do ..	5	0	0
	K. Sri Narasimhaiya, Bangalore ..	do ..	5	0	0
	Mervyn Smith, Bangalore ..	do ..	5	0	0
	G. T. Hall, Bangalore ..	do ..	5	0	0
	Dr. R. Shama Shastri, Mysore ..	do ..	3	0	0
	Rev. C. Brown, Bangalore ..	do ..	5	0	0
	G. Sundara Rao, Bangalore ..	do ..	5	0	0
	Reverend M. B. Taylor, Bangalore ..	do ..	5	0	0
	Rev. Fr. Van Peene, Bangalore ..	do ..	5	0	0
	Dr. H. B. Mylvaganam, Bangalore ..	do ..	5	0	0
	Reverend H. Bjeerum, Bangalore ..	do ..	5	0	0
	C. Rama Rao, Bangalore ..	do ..	5	0	0
	Col. P. A. Skipwith, Bangalore ..	do ..	5	0	0
	M. Madhavan, Bangalore ..	do ..	5	0	0

Books Presented or Purchased during the Quarter ending 30th September 1925.

Presented by:—

The Oxford University Press—

1. A History of Greek Religion, by Martin P. Nilsson.
2. Five Stages of Greek Religion, by Gilbert Murray.
3. A Calendar of the Court Minutes, etc., of The East India Company, 1664—1667, by E. B. Sainsbury.

Secretary, Bhandarkar Oriental Research Institute, Poona—

1. The Prakriyākaumudi of Ramachandra with a Critical Notice of Manuscripts, etc., by Rao Bahadur K. P. Trivedi, B.A.
2. List of Manuscripts collected for the Government Manuscript Library, by the Professors of Sanskrit at the Deccan and Elphinstone Colleges since 1895 and 1899.

The Registrar, Madras University—

The Calendar for 1925—26, Vol. I.

Do. do. Vol. II.

The Government of Burma—

Census Tables. Southern Shan States. No. 42.

Burma Gazetteer. Lower Chindwin District, Vol. B, No 34.

The Registrar, Mysore University—

The Calendar for the year 1925—26.

Mrs. K. P. Padmanabha Menon—

History of Kerala.

Mr. Rabindranath Dutt, M.A., B.L.—

The Ruins of Mahammadpur.

Prof. W. G. Urdhwaresha, Kavyathirtha, M.A., M.R.A.S.—

Pancha Tantra of Bhasa, edited by W. G. Urdhwaresha.

By Purchase:—

1. The Siddhantas and The Indian Calendar, by Robert Sewell.
2. The Indian Quarterly Register, 1924, by Mitra, Vol. II (July-December).
3. "India as I Knew it", by Sir M. O'Dwyer, 1885-1925.
4. "A Nation in the Making", by Sir S. N. Banerji.
5. The Rise of the Christian Power in India, by Major B. D. Basu, I.M.S. (Retired), Volumes 1 to 5.
6. The Heart of Aryavarta, by Lord Ronaldshay.

EXCHANGES.

I. The Editors of :—

1. "HINDUSTAN REVIEW," P.O. Box No. 2139, Calcutta.
2. "INDIAN ANTIQUARY," British India Press, Mazagaon, Bombay.
3. "CEYLON ANTIQUARY," The "Times of Ceylon", Colombo.
4. "MODERN REVIEW," 91, Upper Circular Road, Calcutta.
5. "THE HINDU MESSAGE," Srirangam.
6. "WEDNESDAY REVIEW," Teppakulam, Trichinopoly.
7. "THE SOUTH INDIAN RESEARCH," Vepery, Madras.
8. "THE EASTERN BUDDHIST", The Library, Sinshu
Otani University, Kyoto.
9. "THE CHRISTIAN COLLEGE MAGAZINE," Madras.
10. "THE EDUCATIONAL REVIEW," Mount Road, Madras.
11. "THE VEDIC MAGAZINE," Gurudatta Bhavan, Lahore.
12. "ZEITSCHRIFT DER DEUTSCHEN MORGENLANDIS-
CHEN GESELLSCHAFT," Halle, Germany.
13. "THE SANSKRIT BHARATHI," Burdwan, Bengal.
14. "THE JOURNAL OF THE AMERICAN ORIENTAL
SOCIETY," New Haven, Connecticut, U.S.A.
15. "THE KALPAKA," Tinnevely.
16. "EVERYMAN'S REVIEW," Madras.
17. "MAN," The Royal Anthropological Institute, London.
18. "DJAWA," Kanarillaan, 13, te Weltevreden, Java.
19. "MAN IN INDIA," Ranchi, B.N.Ry. (India).
20. "THE KARNATAKA GRANTHAMALA," Mysore.
21. "THE MYSORE CHRONICLE," Tumkur.
22. "THE JAIN GAZETTE", Parish Venkatachala Iyer Street,
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23. "THE INDIAN SOCIAL REFORMER," Navsari Chambers,
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24. "PRABUDDHA BHARATA, ADWAITA ASRAMA,"
Mayavati P.O., Almora Dist.
25. "THE SHAMA'A," Aghore Mandir, San Thome, Madras.
26. "VISHVA-BHARATHI," 10, Cornwallis Street, Calcutta.
27. "NĀVASHAKTI," Dharwar.

28. "THE SHRINE OF WISDOM," *The Hermetic Truth Society, Lincoln House, Acacia Road, Acton, London (21-3).*
29. "WELFARE," *91, Upper Circular Road, Calcutta.*
30. "MYSORE BLUE BOOK AND PUBLICITY JOURNAL,"
Bangalore.
31. "BUDDHIST ANNUAL OF CEYLON," *Colombo.*
32. "KARNATAKA SAHITYA PARISHATPATRIKA," *Bangalore.*
33. "EPIGRAPHIA INDO-MOSLEMICA," *Simla.*
34. "YOGAMIMAMSA," *Kunjavana, Lonavla, Bombay.*
35. "THE LITERARY REVIEW," *Nagpur City.*
36. "THE MYSORE GAZETTE," *Librarian, Public Offices, Bangalore.*
37. "PRABUDDHA KARNATAKA," *Karnatakasangha, Central College, Bangalore.*
38. "INDIAN STORY TELLER," *164, Cornwallis Street, Calcutta.*
39. "THE GUARDIAN," *86, College Street, Calcutta.*
40. "THE YOUNG MEN OF INDIA," *5, Russel Street, Calcutta.*
41. "THE PREMA," *Tungabhadra P.O.*
42. "AL-KALAM," *Bangalore.*
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101, Mechnabazar Street, Calcutta.
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47. "THE KARNATAKA," *Basavangudi P.O., Bangalore City.*

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- IV. THE GENERAL SECRETARY, BIHAR & ORISSA
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A PROBLEM OF ANCIENT SOUTH INDIAN HISTORY.

BY K. G. SESA AİYAR, B.A., B.L., M.R.A.S.

1. Introduction.

To the student of the ancient history of South India, the problem of the date of the Sangam epoch in Tamil literary history is of the greatest interest and importance. The Sangam works give us vivid accounts of a highly civilized state of society, where the arts of war and peace had attained considerable development. They tell us of the civil administration of the ancient Tamil country, of its social life and religious practices, its political activities and commercial enterprises. They give us accounts of a vast number of Cheras, Cholas and Pandyas, whose 'uncouth names'—the expression is the late Mr. Vincent Smith's—are unknown to the epigraphist. The military achievements of these kings and their almost extravagant munificence as patrons of letters are extolled by contemporary poets, whose names are not less 'uncouth' than those of their royal patrons. They ruled over a smiling land of which the kings, poets and people were equally proud. The wealth and importance of the country attracted foreign merchandise to its ports, where trade on an international scale was carried on. Thus, speaking of Musiri, the modern Cranganore, which was one of the ports of the ancient Chera Kingdom, a poet named Eruk-kattur Tayan Kannanar writes in *Ahanānūru*, a Sangam

work, in the following strain :—" The thriving port of Musiri, where the large and beautiful ships of the Yavanas, with loads of gold, come splashing the white foam on the waters of the Periyar, which belongs to the Chera, and go back laden with pepper." In *Puranānūru*, another Sangam work, Paranar writes: " Fish is bartered for paddy : sacks of pepper are brought from the houses to the market : the gold received from the ships in exchange for commodities sold is brought to the shore in barges at Musiri, where the roar of the surging sea never ceases, and where Kuttuvan presents the rare products of the sea and the mountain to visitors." Kuttuvan, whom the poet mentions, is the well-known Chenkuttuvan, the Chera king who is the hero of several Sangam works. From *Pattinap-palai*, another Sangam work, we see that Puhar or Kaveri-pattinam, the capital and chief port of the Chola Kingdom, was in the days of Karikala, the famous Chola monarch, a great emporium. Horses, gold, pearl, coral, precious stones, spices, articles of food, and manufactured articles were brought to the port, where there was so much brisk and thriving trade and commerce that the king found it necessary to maintain an efficient customs house and establishment. About these interesting times, epigraphy is silent ; and their elucidation is possible only by a thorough and critical study of the Sangam works, which the indefatigable labours of Mahamahopadhyaya Pandit V. Swaminatha Aiyar—*clarum et venerabile nomen* !—have fortunately rendered possible.

What is the approximate date of the Sangam period ? The question has proved to be one of the greatest puzzles of South Indian chronology, if we are to judge by the bewildering diversity of answers given to it. Indeed, one cannot help thinking that the methods of investigation that have been pursued must have been vitiated by some radical defect, when one notices that all possible dates between the first and the tenth century after Christ have been assigned with greater or less confidence to the Sangam period. For example, the *Encyclopædia Britannica* informs us that the ' Augustan age of Tamil literature,' as the late Dr. Caldwell called this period, is to be placed somewhere between the ninth or tenth century and the thirteenth century A.C. Mr. L. D. Swamikannu Pillai and the officers of the Madras Archæological department tell us that we should seek for the Sangam period in the seventh or eighth century A.C. Pandit Raghava Aiyangar of the Tamil Lexicon Committee has attempted to place the Sangam period in the fifth century A.C. Other scholars, of whom I may particularly mention the late Mr. Kanakasabhai Pillai, Dr. Krishanaswami Aiyangar, the University Professor of Indian History in Madras, and Mr. Srinivasa Pillai of Tanjore, have maintained that the Sangam period should be sought for in the second century A.C. There are yet others who would look for the Sangam period before the Christian era. The

expounders of every one of these views are scholars of proved ability and established reputation; but obviously all of them cannot be right, and possibly all of them may be wrong. Each one has attempted to carry on research along his own line, and to state results independently of others; and everybody knows that the pursuit of special lines of investigation easily tends to beget prejudices, and in the statement of results it is not always easy to avoid the fallacies due to individual prepossessions. Discrepant as their conclusions may be, these scholars have as the result of their investigations provided us with a wealth of material, which when subjected to a careful process of analysis, criticism and co-ordination, may yield valuable results by providing us with a tentative solution of the problem that may be accepted.

In examining the various answers returned to the question, we should remember that a hypothesis, however high the authority for it, can have no significance, if it has no real connection with the facts which it is supposed to explain. Nor can the validity of a hypothesis be inferred from its agreement with a single fact. It is a rule of inductive logic that a hypothesis is valid in proportion to the number and variety of facts which it is able to explain. In other words, the guarantee for the validity of a hypothesis consists in the consilience of results. A hypothesis may be accepted as reasonably established, when a number of independent facts point towards it as the one conception fitted to bring them all into intelligible relation. It will be my attempt in this paper to test the various dates that have been advanced, in consonance with this rule.

2. The Ninth or the Tenth Century Theory.

In spite of the high authority of the *Encyclopædia Britannica*, the view there expressed may be rejected as obsolete. That view was first stated about a century ago by the Rev. Dr. Caldwell, when the materials for the investigation of the problem were extremely scanty. In his article in the ninth edition of the *Encyclopædia Britannica*, Dr. Rost repeated that view: and that article has been bodily reproduced in the eleventh or the latest edition of that work. When Dr. Rost wrote his article, the old Sangam works, excepting the immortal Kural, had not been made available in print; but since then, many of the Sangam works have been published, and much valuable research has been made; and it is strange that the literary and historical material since brought to light has been totally ignored by the editors of the eleventh edition of the *Encyclopædia Britannica*. How far out of focus is the date given in the *Encyclopædia Britannica* will be patent if we remember that upon that view the Sangam age will be posterior by several centuries to the earlier Saiva hymnists, Jnanasambandur and Appar, who were the contemporaries of the great Pallava Narasimha I, the destroyer of Vātāpi. The late Prof. Sundaram

Pillai of Trivandrum thoroughly exposed the unsustainability of this hypothesis in his "*Some Mile-stones in Tamil Literature*"; and one can only express one's wonder, not unmixed with pain, that the error should still persist, and find its way into some works, intended to be of authority, like Frazer's *Literary History of India* and the *Imperial Gazetteer of India*.

3. The Seventh or the Eighth Century Theory.

If the view expressed in the *Encyclopædia Britannica* may be summarily dismissed as out of date, the view expressed by Mr. Swamikannu Pillai cannot be dealt with so easily. He is a recognized authority on astronomical calculation; and it is with his assistance that the dates of many of the South Indian kings mentioned in inscriptions have been determined. The service that he has done to South Indian chronology is incalculable; and naturally, therefore, a date fixed by him as the result of astronomical calculation will *prima facie* command acceptance. And when to his personal authority, which is deservedly high, is added the fact that his date has won ready acceptance among the experts of the Government Archæological department, his view would appear to be too well entrenched to be easily assailed. From certain astronomical data found in *Chilappatikaram* and the eleventh *Paripadal*, both Sangam works, he tells us that the former work cannot be anterior to 23rd July 756, and the latter must have been written after 17th June 634. The startling definiteness of the dates arrest attention, and tempts, not to say compels, acceptance. 'To beard the lion in his den, the Douglas in his hall' were, perhaps, less hazardous than to oppose Mr. Swamikannu Pillai on the question of an Indian date which he has fixed by calculation; nevertheless, with due deference, I venture to state that his dates in this matter cannot be accepted. To place the Sangam period between the middle of the seventh and the middle of the eighth century would be to ignore altogether the political condition of Tamil India as depicted in the Sangam works, and of the rest of India in that period as now known to us. From the time of Simhavishnu (C. 575—600 A.C.) the Pallava supremacy was the most outstanding fact of South Indian history for nearly three centuries. The period indicated by Mr. Swamikannu Pillai is covered by the reigns of, among others, Mahendra Varman I, Narasimhavarman I, Parameswaravarman I, Narasimhavarman II, and Nandi Varman II, all Pallavas of Kanchi; and during this period of Pallava domination, the Cheras and Cholas and to some extent the Pandyas did not count for anything practically. The Sangam works make no reference to the Pallavas at all; not one Pallava king, great or insignificant, is even casually mentioned in those works. On the other hand, a large number of Cheras, Cholas and Pandyas, with names some of which may be

regarded as unpronounceable and almost forbidding, and many feudatory chiefs under them are sung about by the Sangam poets. Among them, I may by way of illustration mention Chen-Kuttuvan, Imayavaramban, Nedumchēralādan, Pal-yānai-chelkeḷu-Kuttuvan, Kaḷamkāi-kaṇṇiṇār-Mudi-chēral, Ādu-Kōtpāttu-chēra-lādan, Chelva-kadumkō-vāḷiyādan, Perumchēral-Irumporai, Ilamcheral-Irumporai, Yanaikkat-chēy-māntaramcheral-Irumporai, Pālai-pādia-Perum Kadumkō, Perum-chōṛṛu Udiyan-chēralā-dan of the Chera Kingdom, Karikāl-Peruvalathān, Ilamchēy-chenni, Nalam-killi, Kula-muṛṇat-tunchia Killi Vaḷavan, Vēl-pah-ṛadakkai Peru-nar-killi, Chōḷan Chen Kannan of the Chola Kingdom, and Nedumcheḷiyan, Mudukudumi-peruvalūdi, Ilavantikai-tunchiya Nan-māran, Kūdakarattu-tunchiya māran vaḷūdi of the Pandya Kingdom. Among the chiefs, mention may be made of Pēkan, Ōri, Kāri, Evvi, Nannan, Adiyamān, Anji, Vichchi-Kō, and Pāri. It is significant that not one Pandya or Chola king of the seventh or eighth century whom the inscriptions have brought to light is referred to in the Sangam works, while they belaud the prowess and munificence of a host of kings and chieftains that ruled and exercised authority over the Tamil kingdoms. No one would have the temerity to say that the Tamil kings and their achievements detailed in the Sangam works could be made to fit into the epoch of the Pallava ascendancy. These rulers must necessarily belong to a prior age. About the middle of the seventh century the Pandya King of Madura was Kūn Pandya *alias* Ninṛasir Nedu Māran, and the Pallava King of Kanchi was Narasimha Varma I; while about the middle of the eighth century, the Pandya and the Pallava kings were respectively Jatila Nedunjadiyan Parāntaka, the donor of the Vēlvikudi grant, and the well-known Nandivarman Pallava Malla. The Vēlvikudi plates, the text of which Mr. K. G. Sankar published recently in the Quarterly Journal of the Mythic Society, Bangalore, mention the Pandyan Mudu Kudumi of the Sangam period as a remote ancestor of Ninṛasir Nedu Māran or as he is called in the grant, Māra Varman the victor at Nelvēli. This Nedu Māran was converted to Saivism by Jnanasambanda, and at the instance of the latter became one of the most cruel persecutors of the Jains, of whom it is said he impaled 8,000 in Madura. Jnanasambanda and his elder contemporary Appar, who is said to have converted to Saivism the Pallava Mahendra Varman, son of Narasimha I, have in their Devaram hymns referred to the Chola King Chen Kannan, with reverential devotion; and it is seen from the references that by the time of the two hymnists, a hoary and consecrated legend had become woven about the name of that Chola monarch. Dr. Hultsch thinks that even at the time of the earliest of the dynastic Cholas brought to light by epigraphical research, Chen Kannan must have been only a name; and we see from the

Tiruvālangādu plates of Rajendra Chola I, that Karikala Chola 'of extensive glory' was an ancestor of the 'emperor' Kō-Chen-Kannan. All this indisputably shows that we should seek for the Tamil kings of the Sangam era long before the middle of the seventh century.

Besides, as already stated, the middle of the seventh century coincides with the date of Jnanasambanda and Appar, and their royal disciples Ninra-sir-Nedu Māran and Mahendra Varman. Those were the days when the Jains were most mercilessly persecuted both in the Pandya and the Pallava country. The flame of passion and prejudice against the Jains was fanned with equal vigour by the Saiva Nayanars and the Vaishnava Alwars; and by the time of Sri Sankara (eighth century) the Jains had ceased to be an important factor in the Tamil country. It is difficult to believe that it was during this period of bitter persecution, that the growth of classical Tamil literature went on apace, mainly under Jain auspices; for everybody conversant with Sangam literature knows to what great extent we are indebted to the Jains in that respect. The Sangam age was pre-eminently the period of the predominance of the Jains in Tamil letters. The author of *Chilappatikaram* was a Jain; while his brother, the Chera King Chen Kuttuvan, was a Saivite. It is patent that there was then perfect religious toleration, and the differences in religious belief did not break asunder the bonds of family; much less did they affect the amenities of social life. Again to look for the Sangam period in the seventh and the eighth centuries will be to regard the Sangam poets as contemporaries of the Saiva hymnists and the Vaishnava Alwars; and to do so would be to ignore the evidence supplied by the language, matter and verse-form and metre employed in the works of the Sangam and the hymnal period respectively.

Apart from the difficulties noticed above, let us inquire if the dates supplied by Mr. Swamikannu Pillai can really be obtained from the astronomical data given in *Chilappatikaram* and *Paripadal*. In a paper on 'The Date of *Chilappatikaram*' which I published in 1917 in the Madras Christian College Magazine, I have shown that in spite of Mr. Swamikannu Pillai's emphatic statement that 756 A.C. satisfies all the astronomical conditions mentioned in *Chilappatikaram*, not even one condition could, without very material alteration, be made to apply to that year. Similarly, in regard to 634 A.C. which that distinguished scholar has arrived at from astronomical data found in XI *Paripadal*, Mr. Somasundara Desikar of Tiruarur has examined its correctness in a series of articles recently contributed by him to *Sen Tamil*, the organ of the Madura Tamil Sangam, and demonstrated its inaccuracy. I do not intend to examine in detail these dates over again; but I shall state the position very briefly indeed. In connection with two situations in *Chilappatikaram*, astronomical data are supplied, in one place by the

commentator Addiyarkku-nallar, and in another by the author of the poem Ilanko-adiga! himself. The former relates to the flight from Kaveri-pattinam of the hero and the heroine; and the latter relates to a fire that broke out in Madura. In regard to the first occurrence, the commentator tells us, among other things, that in that year the month of Chitrai (Mesha) commenced on Sunday, the third lunar day (*Tritiya*) co-existing with Svati star, and that the flight took place on the 29th Vaikasi (Ṛṣabha) which was a Tuesday, the fourteenth day of the waxing moon, after the moon had set, while yet the sky was dark, the star being *Kettai* (Jṣṭa). Mr. Swamikannu Pillai himself admits that in 756 A.C., the month of Chitrai began on Sunday, *Pratama* or first lunar day with *Chitrai* star and that the flight to agree with that year, must have taken place, not in the small hours of the morning between Tuesday and Wednesday under the influence of the malignant *Kettai* star, but early in the morning between Monday and Tuesday, when the prevailing star was *Anusham*. He also admits that Tuesday was not *Chaturdesi* or fourteenth lunar day, as the commentator says, but it was a full moon day, and that there was an eclipse that day. Indeed as regards the flight, Mr. Swamikannu Pillai's date is at complete variance with every particular mentioned in the commentator's note. Turning to the fire, we read in the poem that it occurred at night on a Friday which was the eighth day of the dark half of the month of Ādi, the star *Bharani* being succeeded in the course of the night by the star *Kartigai*. On 23rd July 756, there was *Asvini* star till 43gh. or till after 11 P.M.; besides, it was the *sixth* day of the dark half, *Kṛṣṇa Saṣṭi* having lasted that day for 38gh. after sunrise. There was no *Kartigai* (Krithika) star at all that night, nor was it *Aṣṭami* as the text expressly requires. In arriving at 756 A.C. Mr. Swamikannu Pillai has brushed aside the statements of both the poet and the commentator, and substituted data of his own; and if instead of the eighth century, he had decided upon any other period as the most probable, he could, by the same process of editing, revising and modifying the premises supplied by the work, have arrived at the result he wanted. The other date, 17th June 634 A.C., is said to be deduced from the 'horoscope', to use Mr. Swamikannu Pillai's expression, of a flood in the Vaigai river, which is found in *Paripadal* XI. The poem says that the river was in flood on a day when Venus was in Ṛṣabha, Mars in Meṣa, Mercury in Mithuna, Krithika star was at the zenith at dawn, Jupiter in Mīna, Saturn in Makara, the moon was eclipsed by the serpent, Agastya was in Mithuna, and the hot weather had been succeeded by the season of rain. The commentator, Parimēl-Alagar, explains, referring to the language of this passage, that the month was Āvani (Simha), the star was *Avittam* (Sraviṣṭa), the moon and Rahu were in Makara and Ketu was in Karkataka. Mr. Swamikannu Pillai

rejects the planetary positions given here as astronomically wrong or impossible, puts a strained construction on the passage, brushes aside all inconvenient statements, and constructing a horoscope of his own, comes to his conclusion about the date. It seems to me that this is an unsatisfactory method. With the sun in Simha, the positions assigned to Mercury and Venus in the poem may be challenged as wrong by modern astronomers; but 'Bhagavan' Gargi seems to have thought that this planetary position was not impossible. There is no doubt that the ancient belief was that the position was possible; but apart from that, why should the sun be removed from Simha and placed in another zodiacal sign, Mithuna, as Mr. Swamikannu Pillai's date would do? There are ample data in the text and in the commentary for placing the sun in Simha. Then again, why should Saturn be removed from Makara to Dhanu? On the 17th June 634, Saturn was in 257° , that is to say 13° away from Makara; and Saturn takes a year to travel 13° . Again Krithika cannot be at the zenith at dawn on that date. And what about Agastya? The poet regards its position as an important factor. Some use is intended to be made of it in checking the result; and so long as it is not done or is not possible to be done, one cannot be too cautious in positing a date.

Mr. Swamikannu Pillai seeks support for his date from the mention of a week-day—Friday—in *Chilappatikaram*; and there are others who say that the mention of solar signs in *Paripadal* and in *Manimekalai* prove that they are late works. I have dealt with this subject elsewhere in some detail. The argument is that India borrowed the planetary week-days and the solar signs from the Greeks at some time not earlier than the fifth century after Christ. It is said that the earliest known genuine instance of the use of a planetary week-day is afforded only by the Eran inscription of Budha-Gupta, which has been assigned by Dr. Fleet to 484 A.C.; and according to that great authority, there was no general practice of using the planetary names of days till the eighth century. From this it is argued that the composition of *Chilappatikaram* may be as late as the eighth or the ninth century. In Vol. III of Dr. Fleet's *Corpus Inscriptionum Indicarum*, which contains the inscriptions of the early Guptas and their successors, besides the Eran inscription, there are only two other inscriptions, the Verawal inscriptions of 1246 and 1264, that mention a planetary week-day; would we be justified in saying from this that till the middle of the thirteenth century the people in the regions of the early Guptas and their successors were not familiar with the use of planetary week-days? As a matter of fact, the planetary week-days seem to have been known in India centuries before the fifth century. The expression *Vāra*, which

imports a regulated division of the month, occurs in *Atharva Jotisha*. In *Paithamaha Sanhita*, which is said to be of the same type as *Vedanga Jotisha*, Tuesday is said to occur. In *Gāthāsaptasati*, which is attributed to Hāla Satavahana, and which Sir R. G. Bhandarkar thinks was either written by Hāla or was dedicated to him, we come across *Angārakavāra* (Tuesday). We have to place Hāla probably in the closing years of the first century B.C. or the opening years of the first century A.C. Aryadeva (C. second century) employs week-days. The *Hitopadēsa* mentions *Bhattāraka Vara* or Sunday. In the *Vaikhānasa Dharmasūtra* (C. third century) *Budhavarā* or Wednesday is mentioned. Yagnyavalkya mentions planetary days. The *Matsya Purana*, which is regarded as the earliest of the *Puranas*, is not only cognizant of the planetary week, but also deals with astral theology, for a chapter is devoted to the worship of the Sun on *Adityavarā*. In Southern India, Tiruvalluvar, who is considerably anterior in date to the authors of *Chilappatikaram* and *Manimēkalai*, has a couplet in his *Kural* which shows the adoption of the seven-day week. One of Jñanasambanda's *padigams* in the Dēvāram collection mentions all the days of the week in their order; and it is clear from that passage that in the minds of the people each day of the week had a well-understood beneficent or malignant influence associated with it. As regards the solar sign, Bhaudayana, whom Prof. Keith places in the fifth century B.C., and Aryadeva (C. second century A.C.) mention the zodiacal signs; and so do also some of the Smritis. Even supposing that the planetary names of the week-days and the solar zodiac were borrowed by India from elsewhere, literary evidence shows that it must have been long before the fifth century of the Christian era. It has been conclusively established that there was extensive intercourse and traffic between India and Babylonia and Assyria; and the recent discoveries at Harappa in the Punjab and at Mohenjo Daro in Sindh, prove the existence in India in the remote past of a civilization and culture closely akin to those of the Sumerians. The borrowing, if indeed there was a borrowing, may well have been from the Babylonian or Chaldean astrologers direct; and that is the view of the late Shankar Balakrishna Dikshit. In any event, India need not have waited till the fifth century A.C. to borrow this knowledge. Indeed Dr. Fleet himself practically concedes this when he admits in his article on Hindu chronology in the eleventh edition of the *Encyclopædia Britannica* that some of the astronomical books perhaps postulate an earlier knowledge of 'the lords of the days', and other writings indicate a still earlier use of the period of seven days.

4. The Fifth Century Theory.

The fifth century has been suggested as the date of the Tamil Sangam by Pandit Raghava Aiyangar in his scholarly monograph on Chera Chenkuttuvan.

His argument has been largely influenced by a mislection of the Samudragupta inscription on the Asoka Pillar at Allahabad, for which Dr. Fleet was originally responsible. The text of the inscription as published by Dr. Fleet contained the words Kauralaka-Mantaraja, and Dr. Fleet thought that Kauralaka must be a mistake for Kairalaka, and he translated the expression as Mantaraja of Kerala. Following this interpretation, the learned Pandit cast about to discover what he thought was confirmation in Tamil literature of Samudragupta's supposed invasion of the Kerala kingdom. He equated Mantaraja with Māntaram Cheral of Sangam literature, and noticing in an *Ahanānūru* lyric reference to a military expedition by *Vampa Moriyar* he stated that the expression *Vampa Moriyar* meant the 'new Mauryas' or Guptas. Unfortunately for this reasoning, Dr. Kielhorn, in studying the Aihole inscription, identified *Kunala* therein mentioned with the '*Kaurala*' of the Allahabad inscription, and pointed out that *Kaurala* was a misreading. The proper rendering of the passage was settled by Dr. Kielhorn and Dr. Fleet in 1898; and it is now understood by all that the reference in the Allahabad inscription is to Samudragupta's victory over the king who was reigning over the region round Kollera or Colair lake. Nobody has yet claimed for Samudragupta conquest of any territory, south of Kanchi; and Dr. Dubreuil is of the definite opinion that Samudragupta did not advance south of the Krishna. It leads nowhere, therefore, to repeat an acknowledged mistake and base a hypothesis thereon as the learned Pandit has done. I have dealt with this hypothesis, with some fulness in my paper on the "*Date of Chilappatikaram*"; and I would now satisfy myself with stating one further fact, that there is a passage in the *Puranānūru* collection exactly parallel to the one from the *Ahanānūru* lyrics on which Mr. Raghava Aiyangar relies; and there the term employed is *Oriyar* and not *Moriyar*. The old commentary explains *Oriyar* as meaning Nāgas or Vidhyadaras; and it is significant that the scholiast, who takes care to mention alternative readings wherever they are known to exist, does not mention *Moriyar* in his commentary as a variant.

Some have sought to make out that Sangam literature cannot have been anterior to the fifth century, as *Manimēkalai* makes a reference to the Gurjaras. The expression *Kuccara Kudigai* occurs in *Manimēkalai* but in my view it has been wrongly interpreted to mean 'a building in the architectural style of the Gurjaras'. I understand the expression to mean 'a hut fashioned or cut in a rock', 'a rock-cave'; *Kuccara* being a corrupt form of *Kuttrah* (कुत्र) a rock. The context seems to leave no room for doubt that this is the meaning. Prince Udayakumaran, in spite of *Manimēkalai* having become a Buddhist nun, lecherously seeks her in a *dharmasāla* where she was serving food to the poor. She at once suspects him, and entering an inner apartment

transforms herself with the help of a *mantra* into a strange lady, and then comes out. The prince does not recognize her, and after a vain search in the inner apartment, leaves the place. It is to denote this inner apartment that the expression *Kuccara Kudigai* is employed in the poem.

5. The Second Century Theory.

The theory that assigns the Sangam epoch to the second century A.C. falls next to be considered; and if it explains, as I shall presently show it does, facts gatherable from the Sangam writings in such manner as no other date so far considered does, no *a priori* consideration of the remoteness of the date should deter us from accepting it. I have already referred to the astronomical data found in two of the Sangam works; and there is no reason to suppose that the authors of those works were only romancing when they mentioned those data. Taking the astronomical details found in *Chilappatikaram*, I have pointed out in my paper on the "*Date of Chilappatikaram*" that 171 A.C. will thoroughly satisfy the conditions in the text for the great fire that consumed Madura. In 171 A.C. Ādi twenty-sixth was Friday; Kṛṣṇa Saptami ended and Aṣṭami began 25 gh. 43 p. after sunrise, and Bharani star ended and Kartigai began at 49 gh. 57 p. after sunrise. Thus twenty-sixth Ādi 171 A.C. will fit in exactly for the fire at Madura; and if 171 be accepted as the date of the fire, then Chen Kuttuva Chera must be taken to be living at that time. Let us see if this hypothesis will satisfy other facts relevant to our inquiry. Sangam literature discloses that when Chen Kuttuvan was reigning, Musiri was a flourishing seaport, frequented by foreign ships. Pliny, who wrote his geography about 80 A.C., says that Musiri was unsafe for ships to call at, owing to the existence of pirates; but apparently that danger had ceased to exist by the time of Ptolemy who died about 161 A.C.: for he speaks of that seaport as a great emporium, which it certainly was in Chen Kuttuvan's time. Chen Kuttuvan was a king of great prowess; and one of the titled names Kadal-ōttia-Vēl-Keḷu-Kuttuvan or Kadal-pirakkōttia-Chenkuttuvan, by which Sangam poets refer to him is reminiscent of a naval engagement, which, perhaps, resulted in driving away the pirates from the coast. Again the value of synchronisms in fixing dates in Indian history is well known; and the matter contained in *Chilappatikaram* affords scope for several applications of that method. That epic recounts that Chen Kuttuvan went on an expedition to North India, in which he was assisted by his ally Nūṛṇavar Kannar, that on that occasion he fought a battle on the banks of the Ganges, where he was opposed by the combined army of certain "Aryan" princes, among whom Vijaya, son of Balakumara, Rudra and others are mentioned; and that, after defeating the allied Aryan forces he returned with a slab of stone from the trans-Gangetic region for fashioning the image of Kannaki—

the *patni-devi* or wife-goddess—which he intended to consecrate in a temple to be built in her memory and honour. At the consecration which the author of the poem attended, the epic tells us that kings of various countries were present, and among them was Gayabahu, king of Ceylon; and Gayabahu, on returning to his country, ordered the erection of a shrine in honour of *patni-devi* and ordained the annual celebration of a festival for her in the month of Ādi. Now, nobody will question that for an invasion of the north by the Chera King, the political condition not only in the other Tamil kingdoms but also outside Tamil India should be exceptionally weak and perturbed; and if we examine the political history of ancient India, there seems to be, so far as the materials now available go, only two or three periods when the Tamils could have marched into North India with any degree of success. Going not further back than the third century B.C., we can state definitely that such an invasion could not have been possible in the times of Chandragupta Maurya, Bindusara and Asoka. It could not have occurred in Pushyamitra's time. It could have taken place between Asoka's death and Pushyamitra's accession, perhaps; that is between 234 and 184 B.C. The period of the later Sungas appears to have been one of confusion; but the Satavahanas or Satakarnis were already attempting to become powerful, and by the close of the first century B.C., they seem to have supplanted the Kanvas, and in the early years of the second century A.C. Gautamiputra Sri Satakarni is seen from the Nasik inscription (VIII, *Ep. Ind.*, p. 61) to have succeeded in defeating the Kṣaharatas and annexing their territory. So another date for the northern invasion might be found, after Pushyamitra's long and eventful reign, possibly in the disturbed and confused period of the later Sungas and Kanvas, that is between c. 148 B.C. and the closing years of the first century B.C., provided the Andras or Satavahanas would have presented no obstacle. After Gautamiputra Sri Satakarni (c. 109 to c. 135 A.C.) came Pulumayi who is said to have reigned for about thirty years. He came into collision with Rudradaman I, the Saka Satrap of Ujjain, who took from him most of the territory which Gautamiputra Sri Satakarni had won from the Kṣaharatas (Girnar inscription); but Gautamiputra Yagna Sri (c. 173 to 202 A.C.) seems to have again defeated the western Satraps and recovered some of the lost provinces. Rudradaman's aggrandizement is held to have been about 150 A.C. and perhaps, between that date and the date of Yagna Sri's accession, the Satavahanas were not powerful and could not have successfully opposed a southern army in its northward march. With the close of Yagna Sri's reign, we enter on the third century, which, in the words of Mr. Vincent Smith, "is one of the dark spaces in the spectrum of Indian history and almost every event of that time

is concealed from view by an impenetrable veil of oblivion". In this dark century too an invasion of North India might have taken place. The fourth and the fifth century of the Christian era is the well-known period of the mighty imperial Guptas; and as Dr. Jouveau Dubreuil observes, in the history of the Deccan the fifth century is the century of the Vakataka dynasty, which, the learned doctor affirms, is the most glorious and the most important of the dynasties of the Deccan between the third and the sixth century. By the sixth century we are in the period of the powerful Pallavas and Chalukyas who, till the latter were overthrown by the Rashtrakutas in 753 A.C., were striving against each other for the mastery of the South. It is clear that the political conditions in the fourth and the succeeding four centuries so far as now known were not at all favourable to an attempt by a Chera king to invade Northern India; and there is no need to pursue our analysis further. Now if the fire at Madura occurred in August 171 A.C., and therefore Chen Kuttuvan was ruling then, how would it agree with the political situation we have been examining? The poem tells us that Chen Kuttuvan started on his northern expedition on hearing of Kannaki's apotheosis after the fire, and after he had ascertained through his spies that Nūṟṟuvar Kannar had promised to assist him and desired to maintain friendly relations with him. Nūṟṟuvar Kannar can be no other than Satakarni; and we may conclude that Chen Kuttuvan and Satakarni entered into a treaty for mutual assistance. We learn from the poem that Chen Kuttuvan had been away from his state for thirty-two months, when he was on the bank of the Ganges. We may consequently suppose that about the beginning of 175 A.C. the Chera king was occupying the bank of the Ganges. This synchronizes with the period when Yajna Sri Satakarni would have been seeking the aid of a friendly power to regain from the Satraps the territory lost by his ancestor Pulumayi. Thus if we hold that Chen Kuttuvan was, during a portion of his long reign, contemporaneous with Yajna Sri, we will be able to explain satisfactorily his northern invasion, which, while it served the Chera's object, must also have afforded material assistance to the Satakarni in vanquishing the Satrap. We are told that at the battle of the Ganges, several northern princes were ranged against Chen Kuttuvan and his ally; and one of the opposing princes was Vijaya, son of Balakumara. I suggest that Balakumara is Ptolemy's Baleokouros. I know that it has been suggested by some historians that Baleokouros was probably one of the Satavahanas. The surmise may be unfounded; but there can be no doubt that he was historically connected with the Satavahanas; and as Ptolemy mentions him in his geography as a contemporary ruling prince, he must have been in existence before 160 A.C. His son may well have been among the princes that opposed Chen Kuttuvan at the battle of the Ganges. Yajna Sri

himself was according to the *Matsyapurana* succeeded by a Vijaya; but it is not stated how they were related. Can that Vijaya be the Vijaya mentioned in *Chilappatikaram*: and if so, was he an usurper, or did he come of a collateral line to which, perhaps, Baleokouros or Balakumara belonged? Then, another of the princes that Chen Kuttuvan defeated at the battle of the Ganges was Rudra: and about this time we have Rudrasimha, if not also Rudrasena of the Satraps, from whom Yajna Sri must have recovered his lost territory. My suggestion is that the battle of the Ganges was fought by Yajna Sri and his ally against the forces of the Satraps and their allies.

There is also another important synchronism that has to be considered: for, *Chilappatikarm* informs us that among the various kings that attended the consecration of the image of Patni-devi, Gajabahu, the king of Ceylon, was one. According to the Mahavamsa, Gajabahu was reigning between 173 and 191. The Rajavali says that Gajabahu took with him some relics of Patni-devi to Ceylon; and this lends confirmation to the statement in the poem that on his return Gajabahu ordered a shrine to be constructed and an annual festival to be celebrated in his dominion in honour of Patni-Kadavul or Patni-devi. This account enables us to explain the hold that the tradition of Patni-devi, the 'wife-goddess', has long had on the people of Ceylon, where as Dr. A. K. Coomaraswamy observes (*J. R. A. S.*: 1909, p. 292) some of the images in temples that depict the old art of that island are those of the apotheosised wife.

6. Conclusion.

Thus we see that 171 A.C. as the date of the fire at Madura satisfies the test afforded by a consilience of results; and we may therefore reasonably conclude that 'Chen Kuttuvan was then the king of Chera. He reigned for fifty-five years, as we see from *Patirru-pattu* V; and according to *Chilappatikaram* he had been fifty years on the throne when he built and consecrated the temple of Patni-devi. His father, Nedam Cheraladan, will have to be assigned to the latter half of the first century, as we learn from *Patirru-pattu* II that he reigned for fifty-eight years. The poet Kumattur Kannanar who was rewarded by Nedum Cheraladan, for his laudatory poem *Patirru-pattu* II and the poet Palai Kautamanar who has sung *Patirru-pattu* III in praise of Nedum Cheraladan's brother, could not be later than the first quarter of the second century. The poet Parananar, who has sung about Chen Kuttuvan, has also sung about Ilanjēy-Chenni, the father of Karikala Chola. Nakiranar and Mangudi Maruthanar have sung about the Pandya Nedum Seļiyan; and we see from *Chilappatikaram* that Nedum Seļiyan's death occurred when Chen Kuttuvan had gone on his northern expedition. Mudattama Kanniyar and Ruttiram Kannanar have panegyricised Karikala Chola. Thus some of

the most famous of the Tamil kings and Tamil poets of the Sangam epoch may be placed in the second century. There is internal evidence in *Chilappatikaram* and *Manimēkalai* that they are posterior to the famous Kural of Tiruvalluvar; and if there be any substance in the tradition that associates Tiruvalluvar with Elela Singa, and in the identification, suggested by some scholars, of Elela with Elara of the Ceylon Chronicle, then Tiruvalluvar would have to be placed in the latter half of the second century B.C. Mr. Somasundara Desikar, to whose learned articles reviewing Mr. Swamikannu Pillai's date for *Paripadal*, reference has already been made, claims for that Sangam work similar antiquity; for he concludes his elaborate inquiry by showing that the astronomical data supplied by that work yield 161 B.C. as the date. Into the examination of these latter dates we need not now minutely enter. For the present we may, it seems to me, hold as a safe hypothesis that a very considerable portion of the literary and political activity of the Sangam epoch belongs to the second century of the Christian era.

THE MATHEMATICS OF ARYABHATA.

BY A. A. KRISHNASWAMI AYYANGAR, M.A., L.T.

(A paper read before the Mythic Society.)

Introductory.

INDIA has always been more a land of philosophy and metaphysics than a land of materialism and scientific research. Unlike Greece and Arabia, ancient India could boast of few persons devoted to the advancement of mathematics as a science by itself. There are very few classical Indian books dealing only with pure mathematics, while almost every Indian astronomical work contains incidentally some chapters in mathematics, giving briefly the lemmas useful for subsequent astronomical calculations.

Mathematics in India was brought up mainly as a handmaid of astronomy, which was itself but an auxiliary to the study of the Vedas and the performance of daily rituals and sacrifices enjoined in the Vedas to please the gods. This accounts for the fact that Indian mathematics is essentially practical and does not contain several water-tight compartments such as Geometry, Algebra, Arithmetic and Trigonometry. There is no such elaborate theory as in Greek mathematics while some theory that is occasionally given takes a practical form. The fragmentary and apparently incoherent presentation of mathematical ideas in the classical Indian treatises has led some of the modern oriental scholars of the type of Mr. G. R. Kaye* to suspect Indian originality and to indulge in pleasant and fanciful hopes that the Indian works record the mathematics of Hypatia or the contents of the lost books of Diophantus or even those of early Chinese works. To quote one instance, there is an attempt to trace to Chinese sources, the origin of the use of the names of colours for variables in Indian Algebra.†

Though ancient India had always given a sort of marginal attention to the study of mathematics, yet the peculiar Indian genius with its marvellous gifts of intuition was destined to give to the rest of the world (though there are oriental scholars who will entirely deny this claim) the important basic

* *Vide* 'The Sources of Hindu Mathematics', by G. R. Kaye (J. R. A. S., 1910) and 'Indian Mathematics' (p. 15), by G. R. Kaye.

† Colour is the most common concrete symbol for distinguishing things. In accounts, entries in black and red inks have different kinds of significance: in a world-map, countries belonging to different nations are coloured differently. It is a universal practice to adopt the colour principle to point out differences. No wonder, therefore, that the ancient Hindus should have naturally thought of the names of the different colours for denoting different variables. I believe that our ancestors were not really so *colour-blind* as to be compelled to borrow the colour-idea from the Chinese.

ideas in mathematics—the place-value system of notation in Arithmetic, the generalizations of Algebra, the sine-function in Trigonometry and the foundations of Indeterminate Analysis. A nation that could compress all its Grammar, all its Philosophy, into a few Sūtras—a unique feature of Indian literature—need not go a-borrowing for symbols to express its mathematical ideas. The ancient Hindus had a special genius for algebraic symbolism. Symbols were their speciality. Hence they were eminently fitted to lay the foundations of mathematics, which they did admirably. Indeed, as H. T. Colebrooke has remarked, had an earlier translation of the Hindu mathematical treatises been made and given to the public, especially to the early mathematician in Europe, the progress of mathematics would have been much more rapid, since algebraic symbolism would have reached its perfection long before the days of Descartes, Pascal and Newton.

The Indian mathematical works are, as a rule, written in verse and the poetic license adds to the obscurity of the language. Besides, they are very brief containing merely rules, results, and sometimes a number of problems with solution, but very rarely a fully worked out mathematical argument. It is just in keeping with the Indian tradition to make the text as brief and concise as possible, so that the whole of it may be easily learned by heart and remembered, the explanations being left to be learnt orally from the Gurus or teachers.

Aryabhata—His Age and Works.

In the whole range of mathematical and astronomical literature of ancient India, one of the most prominent and scientific writers is Āryabhaṭa of Kusumapura born in the year 3577 Kali, corresponding to 476 A.D. He himself says :

षष्ठ्यब्दानां षष्टिर्यदा व्यतीतास्त्रयश्च युगपादाः ।

त्र्यधिका विंशतिरब्दास्तदेह मम जन्मनो व्यतीताः ॥

in the section कालक्रियापाद of his work styled Laghu-Āryabhaṭīyam or Āryabhaṭa-tantra. Mr. G. R. Kaye, in his article Āryabhaṭa, J. A. S. B., IV, 17 (1908) says that Brahmagupta nowhere in his mathematical sections mentions Āryabhaṭa nor does Bhāskara. But Bhāskara has referred to Āryabhaṭa in the following terms: ‘अत एव सूर्यसिद्धान्तार्यभटतन्त्रेष्वेतान्येव’ in connection with his sine-tables, which are identically the same as Āryabhaṭa’s, except in one place.

As regards the identity of Āryabhaṭa, there is an element of doubt. There is another Āryabhaṭa who is known by his work, Mahāsiddhānta; he refers to the old Āryabhaṭa thus:

एवं परोपकृतये श्लोक्तयोक्तं खंचरानयनं ।

किञ्चित्पूर्वागमसममुक्तं विप्राः पठन्त्विदं नान्ये ॥

बृद्धार्यभटप्रोक्तान् सिद्धान्ताद्यन्महाकालान् ।

पाठैर्गतमुच्छेदं विशेषितं तन्मया स्वीकृत्या ॥

in the fourteenth sloka of Pātādhikāra. But Alberuni calls Āryabhaṭa the younger, "that one from Kusumapura". Again the confusion is worse confounded by Sudhākara Dvivedi in his Preface to the Mahāsiddhānta. He gives dubious* references from Bhāskara to show that Bhāskara did not know of the older Āryabhaṭa but only the younger one. I believe that the discrepancies in the references to Āryabhaṭa of Kusumapura must be due to incomplete and erroneous manuscripts of Āryabhaṭīyam being in circulation.

In this connection, it is worthy of note that Āryabhaṭa's treatise on Algebra has been translated into Latin by one G. de-Lunis, an Italian mathematician of the thirteenth century and there is a manuscript copy of the translation in the Bibliothéque Nationale de Florence (*vide* L. Inter. des. Maths., July and August, 1909). Probably a reference to this Latin translation may clear some of the doubts regarding Āryabhaṭa's identity. In 1874 Dr. Kern brought out the first edition of the text Āryabhaṭīyam with the long commentary of Pāramādiśvara and in 1879, Rodet gave a French translation of the Gaṇitapāda, the mathematical portion of the text with very valuable and interesting notes, while Thibaut in 1899 gave a summary of the literature about Āryabhaṭa and G. R. Kaye in 1908 (J. A. S. B., Vol. IV, 17) published his notes on Āryabhaṭa with a literal English translation and commentary of the text.

* *Vide* pp. 22, 23, Mahāsiddhānta, edited with his own commentary by Mahāmahōpādhyāya Sudhākara Dvivedi :

"Bhāskara says in his Vāsanābhāshya of sloka 52 of Bhuvanakōśa of Golādhyāya 'अतो ऽयुतद्वयव्यसे द्विकान्यष्टयमर्तुमितः परिधिरार्यभटाद्यैरङ्गीकृतः । ' This rule is found in Laghu-Āryabhaṭīyam I think by 'आर्यभटाद्यैः' Bhāskara means many mathematicians as बृद्धार्यभट.

By Bhāskara's wording in Vāsanābhāshya of slokas 58-61, Bhuvanakōśa, Golādhyāya "यत् पुनः क्षेत्रफलमूलेन क्षेत्रफलगुणितं घनफलं स्यादिति । तत् प्रायश्चतुर्वेदाचार्यः परमतमुपन्यस्तवान् ॥", it is clear, by *paramata*, that Bhāskara has not seen the work of Āryabhaṭa (लघ्वार्यभटीय)

(The above statement is contradictory to that in the previous para.)

Āryabhaṭa's rule runs thus :

समपरिणाहस्यार्थं विष्कम्भार्धहतेमव वृत्तफलम् ।

तन्निजमूलेनहतं घनगोळफलं निरवशेषम् ॥

Bhāskara in his Vāsanābhāshya of sloka 65 of Grahaganita, Spasṭādhikāra says : 'अतएवार्यभटादिभिः सूक्ष्मत्वार्थं दृक्काणोदयाः पठिताः ।' There is no दृक्काणोदय in Laghu-Āryabhaṭīyam but in Mahāsiddhānta, the author has mentioned. दृक्काणोदय. Therefore this Āryabhaṭa (referred to must be the younger Āryabhaṭa) the author of Mahāsiddhānta

(The statements within the brackets are due to the present writer.)

Many works have been attributed to Āryabhata, but the Āryabhaṭīyam is the only work which can be indubitably called his. It consists of four parts : the Daśagīṭikā Sūtra, Gaṇita, Kālakriyā and Gōla dealing respectively with astronomical tables, mathematics, the measure of time and the spherics.

Aryabhata—the Innovator in Astronomy and Father of Indian Mathematics.

As Dr. Thibaut admits elsewhere, Āryabhata was the first or one of the first to expound the principles of the Indian astronomical system in a highly condensed and technical form and was original, at least so far as India was concerned, in maintaining the daily rotation of the earth on its axis. He says in his Gōlapāda, stanza 9,

अनुलोमगतिनौस्थः पश्यत्यचलं विलोमं यद्वत् ।

अचलानि भानि तद्वत् समपश्चिमगानि लङ्कायाम् ॥

i.e., As one sailing forward in a boat sees the stationary objects on the bank move in the opposite direction, even so do the fixed stars appear to move due west to an observer stationed in Lānka.

But poor Āryabhata could not boldly assert and maintain the above doctrine in the teeth of the orthodox popular doctrine and so he adds immediately as an alternative the popular geocentric theory also. In two other places again, Āryabhata goes against the prevailing orthodox notions : in his theory of the eclipses and in his sub-division of the Chatur-yuga into four equal parts. Thus it is clear that Āryabhata was an innovator in astronomy and that he attempted to reform some of the prevailing corrupt notions and doctrines, thereby incurring the displeasure of the orthodox teachers who regarded him as a heretic.

Coming to the mathematical portion of his work, which is contained partly in his Daśagīṭikā or ten verses and in his Gaṇitapāda of thirty-three verses, one cannot fail to note Āryabhata's high originality. It cannot be denied that he is the father of Indian mathematics ; for we see the later mathematical writings, *viz.*, those of Brahmagupta, Bhāskara, Mahāvīrāchārya and Śrīdhara, bear such a close similarity to Āryabhata's work, barring, of course, variations in details. The subject-matter of later Indian mathematics remains practically the same as Āryabhata's with the exception of two topics, *i.e.*, प्रसारयोगभेद or permutations and combinations and चक्रवाल or the cyclic method in solving Indeterminate Equations of the second degree. The ordinary rules of mensuration of triangles, quadrilaterals, and circles as well as the rules for finding the square-root, the cube-root, etc., agree in all the Hindu mathematical treatises as we shall see presently.

The Alphabetic Notation, Involution and Evolution.

In his *Daśagītikā*, Āryabhaṭa gives a peculiar notation for expressing numbers in terms of the letters of the alphabet—consonants and vowels. The twenty-five *varga* letters from क to स are made to represent the numbers from one to twenty-five respectively in the square or odd places, *i.e.*, in the units, hundreds, ten-thousands, etc., places and the *avarga* letters from य to ह representing the numbers 30, 40, . . . up to 100 are meant to occupy the even or non-square places. The nine vowels अ, इ, उ, ऋ etc., to औ (आ, ई, ऊ, ऋ having the same significance as the corresponding short vowels) attached to, or united with any consonant indicate that the value of the consonant is multiplied by 1, 100, 100^2 , . . . 100^8 , respectively. In conjunct consonants, the vowel attached should be considered as indicating the same multiplier for all the constituent consonants. Thus ख्युष्ट = 4,320,000, दुइविष्व = 1,46,564, डिशिवुण्डख्वु = 1,582,237,500.

But it must be noted that this system was used merely for mnemonic purposes and not followed in the *Gaṇitapāda*. In the second *sloka*, Āryabhaṭa gives the names of the successive powers of 10 up to 10^9 .

Observing closely the notation of Āryabhaṭa, one finds in it the germ of the later place-value system; for, very often in the *Daśagītikā* the vowels अ, इ, उ, etc., occupy more or less the same places from right to left in a number-word as in the modern place-value notation. Thus बुफिनच = 2,32,226, जुष्विध = 4,88,219. In all probability the positions occupied by the vowels, *i.e.*, अ in the extreme right, इ, उ, etc. each in succession in its appropriate place to the left (sometimes to the right also as in जष्विखुलु = 70,22,388) of the preceding vowel in the alphabetic sequence, mark an earlier stage in the evolution of the place-value notation.

Āryabhaṭa's notation and numeration indicate that the Hindus of that age were acquainted in a way with the principle of the position system in the Decimal or the Centesimal scale* (more probably the latter from which the former must have been a later reduction). This is specially noteworthy at a time when the Greeks were adopting the cumbrous rhetorical notation (*vide* Heath's *Diaphantus*, Second Edition, p. 49).

After numeration and notation, Āryabhaṭa proceeds to define the square and the cube of a number and gives rules for finding the square-root and the cube-root. L. Rodet in his '*Leçons de Calcul d'Āryabhaṭa*' infers from these rules that the Hindus must have had a knowledge of our modern system of

* In this connection, it may be noted that the 100-scale is employed in *Taittiriya Upanishad*, II Valli, 8th Anuvaka, for the description of the different orders of happiness or bliss. The bliss of Brahman is reckoned as 100^{10} times the measure of one human bliss.

(*Sacred Books of the East*, Edited by Max Müller, Vol. XV, pp. 59-61.) *

arithmetical notation. But Mr. G. R. Kaye in his usual strain denies such knowledge by saying that the rule is perfectly general and applies to all notations. If the Hindus had no such notation, there would be no necessity for the numeration एक दश शत सहस्रायुत...etc. It is rather curious to observe that Mahāvīrāchārya in South India and Śrīdhara as well as Bhāskara and Brahmagupta give more or less identical rules for the extraction of the square- and the cube-root, while no method of extracting the cube-root is given by any early Greek writer. (*Vide* 'Greek Mathematics' by T. L. Heath, Vol. I, p. 63 and Vol. II, p. 341.)

Some Mensuration Formulae.

Next, the author proceeds to give some mensuration formulæ, some of which are obviously wrong, probably due to wrong and careless generalization from analogy. Thus the area of a triangle is given to be equal to the product of half the base and the corresponding altitude but the volume of a solid with six edges, being considered as the analogue of the triangle in three dimensions, is given to be also equal to the product of half the area of the base and the height. Āryabhaṭa has evidently failed to realize that the areas of similar figures are proportional to the *squares* of the corresponding sides. The area of a circle is correctly given as half the circumference multiplied by the radius and the volume of a sphere as the last multiplied by its own root,* on the analogy, perhaps, of the volume of a cube which is the area of the base multiplied by its square-root. It may be remarked here that though the Greeks had obtained correct formulæ for the above, the Hindus fell into an error—a clear indication to show that the Hindus did not owe any of their mathematics to the Greeks but that they had developed their mathematics in their own way according to their peculiar needs and idiosyncrasies. As Mr. David Eugene Smith remarks elsewhere, the mathematical taste, the purpose, and the method were all distinct in the two great divisions of the world then known.

Two other mensuration formulæ given are both correct, (i) for the lengths of the segments of the diagonals of a trapezium, (ii) for the area of a trapezium. They indicate that the Hindus must have been acquainted with the fundamental property of similar triangles. The property must have been perceived as an axiom more or less intuitively.† The Hindus were specially interested in the isosceles trapezium which was the shape of the वेदी at the Soma sacrifices discussed in the Sulva sutras.

* Sudhākara Dvivedi attempts to give a plausible explanation of Āryabhaṭa's formula for the volume of a sphere by neglecting a fraction as great as $11/32$ (*vide* his Preface to the Mahāśiddhānta, p. 23). There is no evidence to show that the early Hindus neglected to take into account fractions so big as $\frac{1}{32}$.

† In the Geometry of the early Hindus, there is no theory of parallels but there is ample evidence to show that they had, instead, a theory of similar triangles. I believe that they must

There is, next, a general direction for determining the area of any figure by decomposing it into trapezia. This is just similar to the method used in modern field-surveying. One particular case of inscribing a regular polygon, *i.e.*, a hexagon within a circle is suggested by the result that the side of the regular hexagon is equal to the semi-diameter.

The Value of II and the Sine-Table.

The value of II is given by the following proportion :—

चतुरधिकं शतमष्टगुणं द्वाषष्टिस्तथा सहस्राणां ।

अयुतद्वयं विष्कम्भस्यासन्नो वृत्तपरिणाहः ॥ Sloka 10.

When the diameter is 20,000, the circumference will be 62,832 approximately.

The critics say that it seems doubtful how far the above accurate value of II was used. In fact it is remarkable that Āryabhaṭa should have given it, when nothing like it occurs in the Greek works. But the fact that it is given by Āryabhaṭa immediately before his rule for the formation of the sine-tables leads one naturally to suppose that the above value of II was used only for the construction of the sine-tables at intervals of $3\frac{3}{4}^\circ$ and that the less approximate values such as $\sqrt{10}$ were used elsewhere. This is, of course, proper.

In the *Sūryasiddhānta*, edited by E. Burgess and G. Whitney (p. 200), they observe that before the Greeks used the sines in calculations for the chords, they had been long employed by the Hindus. What is remarkable is the Indian invention of the semi-chord or अर्धज्या, while, as remarked by Delambre, Ptolemy himself, who came so near it, should have failed of it.

Āryabhaṭa gives the following rule for deriving the successive sine-differences. It corresponds to the well-known differential formula

$$\frac{d^2 (\sin x)}{dx^2} = -\sin x$$

प्रथमाच्चापज्यार्धवैरुहं खण्डितं द्वितीयार्धं ।

तत्प्रथमज्यार्धवैरुहैस्तैस्तैरुहानि शेषाणि ॥ *

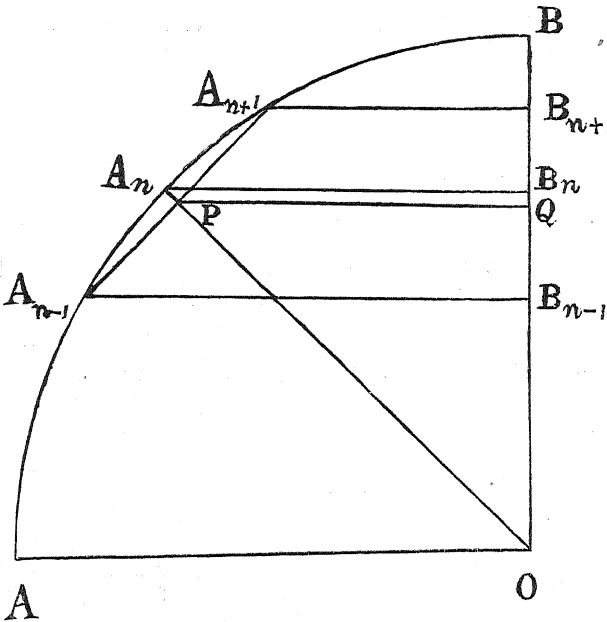
The term 'Sine' is equivalent to the modern sine multiplied by the radius 3438. According to the rule, each sine-difference diminished by the quotients of all the previous differences and itself by the first difference (*viz.*, 225),

have intuitively perceived the truth of the postulate, *viz.*, two intersecting straight lines cutting two parallel straight lines form triangles whose corresponding sides are proportional. This axiom is at the back of all their geometrical theorems, especially the well-known property of the right-angled triangle attributed to Pythagoras. That there is a remarkable anticipation of modern ideas in such an axiom as the above will be appreciated by the reader who is acquainted with the present movement in the Teaching of Elementary Geometry, to replace Euclid's parallel postulate by the postulate of similarity due to Wallis. (*Vide* The Mathematical Gazette, London, Vol. XI, p. 413, Vol. XII, p. 167, and p. 191.)

* For a complete discussion of this rule, *vide* the author's 'The Hindu Sine-Table' in J.I.M.S., Vol. XV, pp. 121-126.

gives the next difference. The differences as given in *Daśagītikā* are: 225, 224, 222, 219, 215, 210, 205, 199, 191, 183, 174, 164, 154, 143, 131, 119, 106, 93, 79, 65, 51, 37, 22, 7. The same results are also given in the *Sūryasiddhānta* with the same rule for obtaining them. It is significant that this rule is not quoted by Bhāskara and others. Apparently, they did not grasp its true import and ignored it.

In J.A.S.B., Vol. IV, No. 3 (pp. 123-125), Mr. G. R. Kaye holds that the above rule may be a rough attempt at the enunciation or application of Ptolemy's Theorem. But the Trigonometry of Ptolemy does not give it and indeed, as Delambre says, in order to find some vestige of it, one must, after having vainly pored over all the authors on Trigonometry, come to Briggs (1561-1631) who knew that divisor 225. Burgess and Whitney in their edition of the *Sūryasiddhānta* suggest that the rule may have been arrived at empirically.* But even this is not likely, as it is difficult to pitch upon the right divisor purely by guessing. The early Hindus might have obtained the result by some such reasoning as the following:—



If the radii OA, OB and the arc AB bound the quadrant AOB, and the quarter-circumference AB be divided into twenty-four equal parts so that each part is $3\frac{3}{4}^\circ$ and perpendiculars drawn from the points of division on OB, these perpendiculars intercept on OB segments corresponding to the successive sine-differences. In particular, let A_{n-1} , A_n , A_{n+1} be three consecutive points of division on the arc AB and B_{n-1} , B_n , B_{n+1} the corresponding

feet of the perpendiculars from A_{n-1} , A_n , A_{n+1} on OB; let OA_n cut $A_{n-1}A_{n+1}$ at its middle point P and let Q be the foot of the perpendicular from P on OB. (Vide Figure.)

* On pp. 107, 108 of J.I.M.S., Vol. XV, No. 7, February 1924, Mr. Naraharayya explains elaborately the *Sūryasiddhānta* rule for the calculation of successive sine-differences, echoing the views of Delambre and Rev. Burgess that the Hindus may have obtained the rule by the observation of the series 1, 2, 3, . . . etc. In explaining a proof of the formula, he makes a free and

Now, it is easily seen from the property of the trapezium $A_{n+1} B_{n+1} B_{n-1} A_{n-1}$ and the similar triangles that

$$\begin{aligned} B_{n-1}B_n - B_n B_{n+1} &= 2 OB_n \\ &= \frac{2OB_n}{OA_n} \cdot PA_n \\ &= \frac{OB_n \cdot A_n A_{n+1}^2}{OA_n} \\ &= \frac{OB_n}{225} \end{aligned}$$

$$\begin{aligned} \text{for } \frac{OA_n}{A_n A_{n+1}} &= \frac{\text{radius}}{\frac{1}{96} \text{ circumference}} \text{ approximately} \\ &= \frac{960000}{62832} \quad (\text{using } \bar{\text{Aryabha\ddot{t}}}\text{a's values}) \\ &= 15 \text{ to the nearest integer.} \end{aligned}$$

Hence the rule given by $\bar{\text{Aryabha\ddot{t}}}\text{a}$.

Mr. Kaye remarks: "Using the formula given by $\bar{\text{Aryabha\ddot{t}}}\text{a}$ and the author of the *Sūryasiddhānta*, we find that only five of the sines following the first can be obtained by its means and that with the seventh sine begins a discordance * between the table and the result of calculation by the rule, which finally amounts to as much as seventy minutes. It follows, therefore, that either the rule was used but corrections were made by the aid of other tables, or the table was copied wholesale." The last part of the above statement seems to be untrue. Ptolemy's table proceeds by half degrees and his radius is 60° and to convert Ptolemy's table to the present one, one should use the change-ratio $\frac{3}{2\pi}$. Instead of taking all this trouble, the early Hindus would sooner and more easily have derived their tables by their rule, by applying corrections when the results disagreed with the values obtained by direct calculation. Direct calculation of the sine for the common angles 30° , 45° , 60° , 75° , and 90° gives respectively 1719, 2431, †2977, 3321 and 3438.

unlicensed use of infinitesimals, tangents, and parallels, which are quite alien to the minds of the early Hindus. In Brahmagupta's and Bhāskara's texts, the calculations proceed through half angles and their complements. Thus from sine 60° , they obtain successively sine 30° , sine 15° , sine $7\frac{1}{2}^\circ$, sine $3\frac{3}{4}^\circ$ and hence the sines of the complements of 15° , $7\frac{1}{2}^\circ$, and $3\frac{3}{4}^\circ$ and so on. There is no evidence, as Mr. Naraharayya imagines, to show that the Hindus calculated successively the sines of $3\frac{3}{4}^\circ$, $7\frac{1}{2}^\circ$, $11\frac{1}{4}^\circ$, etc., by a method however remotely resembling the method suggested by him.

* To explain the apparent discrepancies after the sixth step, Mr. Naraharayya in his Note on the Hindu Sine-Table (P. 111, J.I.M.S., Vol. XV, No. 7) quotes the rule given by the commentator Ranganatha, and himself invents other rules which are quite numerous and arbitrary and not based on rational grounds.

† The $\bar{\text{Aryabha\ddot{t}}}\text{a}$ table gives 2978, while Bhāskara who says that his table is derived from $\bar{\text{Aryabha\ddot{t}}}\text{a}$'s work and the *Sūryasiddhānta* give the more correct value 2977.

By following the usual rule, one meets the first discrepancy at the 7th difference. But the fractional parts neglected in the 3rd, 4th, 5th and 6th differences have accumulated sufficiently to affect the 7th difference and we are therefore justified in including them in the 7th difference, which thus becomes 205 to the nearest integer, *i.e.*, Āryabhaṭa's value. Continuing the calculations further, we find the 8th difference to be 198 to the nearest integer; but $\sin 30^\circ =$ the sum of the 8 differences $= 1719$, the 8th difference has therefore probably been corrected to 199. Similar corrections applied at the angles 45° , 60° , 75° and 90° to the results obtained by the usual rule give the figures of Āryabhaṭa.

Thus one can forcibly conclude that the rule was generally used but corrections were made not by the aid of other Tables as Ptolemy's (as Mr. Kaye suggests) but by comparison of the results with the actual ones obtained by direct calculation for the common angles 30° , 45° , 60° , 75° and 90° .

[In this connection, it is interesting to note that the sines of the angles between 60° and 90° can be deduced very simply by adding the sines of two suitable angles less than 60° , for example,

$$\begin{aligned}\sin 71^\circ. 15' &= \sin 11^\circ. 15' + \sin 48^\circ. 45' = 671 + 2585 \\ &= 3256;\end{aligned}$$

$$\begin{aligned}\sin 82^\circ. 30' &= \sin 22^\circ. 30' + \sin 37^\circ. 30' \\ &= 3408 \text{ which disagrees with Āryabhaṭa's result } 3409.\end{aligned}$$

This is based on the fact that the sine of any angle x° between 60° and 90° can be obtained by adding the sines of the sum and the difference of 30° and the complement of x° .

An interesting property of the sine-differences which follows as a corollary from the above may also be noted here, *viz.*, the n difference is equal to the $(n-16)^{\text{th}}$ difference—the $(33-n)^{\text{th}}$ difference ($n > 16$). Thus the 19th difference $=$ the 3rd difference—the 14th difference, *i.e.*, $79 = 222 - 143$. By means of this, one can write out the last eight differences from the first sixteen.

The matter may be presented in another form also: Write the first eight differences in one row, the next eight in a second row (in the reverse order beneath the first row), and the third eight in the third row beneath the second thus

225,	224,	222,	219,	215,	210,	205,	199
119,	131,	143,	154,	164,	174,	183,	191
106,	93,	79,	65,	51,	<u>37,</u>	22,	<u>7</u>

Then one easily sees that the figures in the third row with the exception of the underlined two figures are obtained by subtracting the figures in the second row from the corresponding figures of the first row placed vertically above them.

A similar method may also be given for the calculation of the sines of angles between 60° and 90° from those of angles less than 60° .]

The Sun-Dial and Shadow-Problems.

The next mathematical topic discussed is the mathematics of the Sun-dial and the Shadows. As a preliminary to this, constructions are given for drawing a circle, a triangle (probably an equilateral triangle) given a side, and a rectangle (probably a square) given a diagonal. Directions are also given for determining experimentally the horizontal and the vertical planes by means of water and the plumb-line respectively. The ordinary Pythagorean rule is given for finding the radius of the gnomon-circle given the height of the gnomon and the length of the shadow. Then follow two rules for determining (i) the lengths of the shadow of a gnomon of given height, and (ii) the height of the source of light and its distance from two equal gnomons casting known shadows. The formulæ are as follows :

(1) When only one gnomon is considered,

Shadow $\frac{\text{height of the gnomon} \times \text{the distance of the light from the gnomon.}}{\text{the difference between the heights (of the gnomon and the light)}}$

(2) When two equal gnomons are considered, the distance between the end of a shadow and the base of the light is equal to

$\frac{\text{the length of the shadow} \times \text{the distance between the ends of the shadows.}}{\text{the difference}}$

There is an element of ambiguity in formula (2) with respect to the denominator, *viz.*, 'difference'. It is not clear which 'difference' is meant. The text says : छायागुणितं छायाप्रविवरमूलेन भाजिता कोटी । Now छायाप्रविवरं may mean either (A) the distance between the ends of the shadows or (B) the difference between the distances of the shadow-ends from the base of the light; and ऊन may mean either (A') the difference of the distance between the ends of the shadows and that between the gnomons, or (B') the difference between the lengths of the shadows.

If we accept the interpretations (A), (A') or (B), (B'), the formula is a perfectly general one and the light and the two gnomons need not be in the same vertical plane; but if we should accept the interpretations (A), (B'), or (A'), (B) the formula holds only in the particular case where the gnomons are in the same vertical plane with the light. The second or the particular case is the interpretation of the commentators, but I am inclined to hold the first view following the interpretations (B), (B').

It is significant to note that Bhāskara gives both the above rules of Āryabhaṭa and that Bhāskara's text also favours my interpretation (*vide* Līlāvati—छायाव्यवहार, slokas 59-60). But Brahmagupta and Mahāvīrācārya give only the first rule and Śrīdhara does not mention either of the rules.

Mr. Kaye observes in his Notes on Indian Mathematics (J.A.S.B., Vol. IV, No. 3, p. 128) that the Hindus were at least acquainted with the inclined gnomon and quotes Pancha Siddhantika XIII, 31 (wrongly referred to as XII, 31). But there is evidence enough in Mahāvīrāchārya's Gaṇitasāra Saṅgraha to show that the Hindus had more than a casual acquaintance with the inclined gnomon. We have in the Gaṇitasāra Saṅgraha (Text, p. 156)

स्तम्भस्य अवनतिसंख्यानयन सूत्रम् —

छायावर्गाच्छोया नरभाकृति गुणित शङ्कुकृतिः ।

सैकनरच्छायाकृतिगुणिता छायाकृतेः शोध्य ॥

तन्मूलं छायायां शोध्यं नरभानवर्गरूपेण ।

भागं हत्वा लब्धं स्तम्भस्यावनतिरेव स्यात् ॥

Here the inclination of the pillar is measured by the perpendicular distance of the top of the pillar from the vertical through its foot. If we denote this inclination by x , the length of the pillar by l , the length of the shadow by s , Mahāvīra's formula is

$$x = \frac{s - \sqrt{s^2 - (s^2 - l^2 r^2) (r^2 + 1)}}{r^2 + 1}$$

where r is the ratio of human shadow to human height.

An Eclipse-Problem.

A property of the circle is then enunciated, viz., that in a circle, the product of the arrows is the square of the semi-chord of the arc. Immediately, there follows a theorem derived from this property, which is made use of in the calculation of eclipses.

If two circles cut each other at A and B and their line of centres cut the circles at C, D, E, F in order from left to right, and the common chord in X, the greatest breadth of the common portion of the two circles is called *ग्रस* or bite and the measure of its segments is given by the formulæ :

$$DX = \frac{DE \cdot CD}{CD + EF}; \quad EX = \frac{DE \cdot EF}{CD + EF}$$

This easily follows from the fact that $CX \cdot NE = AX^2 = DX \cdot XF$ and hence

$$\frac{DX}{EX} = \frac{CX}{FX} = \frac{DX + CX}{EX + FX} = \frac{DC}{EF}.$$

In connection with the above property of the circle, Mr. G. R. Kaye observing that M. ibn Musa (820 A.D.) gives a similar result along with a formula (not given by any Hindu writer before his time) for the computation of the area of a segment of a circle, concludes that all these rules are taken from the same source, not at any rate Indian. Mr. Kaye cannot imagine that it is possible for M. ibn Musa to gather together in one place results gathered from different sources.

The Arithmetical Progression and Allied Series.

The next topic in the *Gaṇitapāda* is the arithmetical progression. The following general formula is given for the sum of the terms of an A. P. beginning with the $(p+1)^{\text{th}}$ term. $n \left\{ a + \left(\frac{n-1}{2} + p \right) d \right\}$,

a being the *मुख* or the first term and d being the *चय* or the increment. This formula is of special significance as we shall see later on. An alternative form of this result is suggested also :

Add the beginning and the end terms and multiply the sum by half the number of terms.

This rule is quite correct but Mr. Kaye misunderstands it (assuming *आदि* to mean *मुख*) and condemns it as out of place.

The above rule is followed by another for determining the number of terms in an A. P. given the other usual data. In the usual notation,

$$n = \frac{1}{2} \left\{ \frac{\sqrt{8ds + (2a-d)^2} - 2a}{d} + 1 \right\}. \text{ The same rules are given, though with}$$

slight variations in form, by Brahmagupta, Bhāskara, Śrīdhara and Mahāvīrāchārya. I may add *en passant* that Mahāvīrāchārya's *व्युत्कलित* operation (Translation, *Gaṇitasāra Saṅgraha*, pp. 34-36) just corresponds to the first formula

$n \left\{ a + \left(\frac{n-1}{2} + p \right) d \right\}$ and this formula occurs neither in Brahmagupta's nor in Bhāskara's works.

Āryabhaṭa then proceeds to give the contents of a triangular pile and a square pile as $\frac{n(n+1)(n+2)}{6}$ or $\frac{(n+1)^3 - (n+1)}{6}$ and $\frac{n(n+1)(2n+1)}{6}$ respectively. The formula for the sum of the cubes is given by

$$1^3 + 2^3 + 3^3 + \dots + n^3 = (1 + 2 + 3 + \dots + n)^2$$

The latter formula might have been derived from the series (1), (3, 5), (7, 9, 11), (13, 15, 17, 19), etc., divided into groups as shown by the brackets. The sum of the numbers in each group is a perfect cube as can be seen on the application of Āryabhaṭa's first formula. Hence the given result follows easily by expressing the sum of the n groups as the sum of $(1+2+3+\dots+n)$ natural odd numbers.

Brahmagupta and Bhāskara also give the above formula, but Mahāvīrāchārya advances very much beyond these writers, for he gives expressions for (1) the sums of the squares of the terms of an A.P., (2) the sums of the cubes of the terms of an A.P., and (3) the sum of a series wherein each term represents the sum of a series of natural numbers up to a limiting number which is itself a member in a series in arithmetical progression, etc. *Vide* his *Gaṇitasāra Saṅgraha*, pp. 169-173 (Translation by M. Rangacharya).

On closer examination of the form of Mahāvīrāchārya's results, it will suggest to one that his व्युत्कलित operation corresponding to Āryabhaṭa's first formula was the key to obtain the values of $\sum n^2$, $\sum n^3$, $\sum n(n+1)$, etc. For example, take the series of natural numbers 1, 2, 3, . . . and group them as follows:—

$$(1+2+3) + (4+5+6+7+8) + (9+10+11+12+13+14+15) + \dots$$

the first group containing 3 terms, the second 5, the third 7 and so on. The number of terms preceding the n^{th} group is $3+5+\dots+2n-1$, i.e., n^2-1 and the n^{th} group contains $2n+1$ terms. So, by Āryabhaṭa's formula, the sum of the terms in the n^{th} group is

$$(2n+1) \left(1 + \frac{2n+1-1}{2} + n^2 - 1\right), \text{ i.e., } n(n+1)(2n+1)$$

Now, on comparing the series formed by the sums of the groups with the series 1^2 , $1^2 + 2^2$, $1^2 + 2^2 + 3^2$, $1^2 + 2^2 + 3^2 + 4^2$, . . . one finds that the sum of the terms in any group is 6 times the corresponding term in the above series.

$$\text{Hence } 6(1^2 + 2^2 + \dots + n^2) = n(n+1)(2n+1)$$

$$\text{i.e., } 1^2 + 2^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}^*$$

Similarly, by grouping the series of natural numbers in another way: $\overline{1+2}$, $\overline{3+4+5}$, $\overline{6+7+8+9}$, . . . etc., and comparing the series formed by the sums of the groups with the series 1.2 , $1.2+2.3$, $1.2+2.3+3.4$, . . . we find that the ratio of the corresponding terms in the two series is $3/2$. But the sum of the terms in the n^{th} group of the first series is, according to Āryabhaṭa's rule, obtained as $\frac{n(n+1)(n+2)}{2}$. Hence the n^{th} term of the second

series, viz., $1.2+2.3+\dots$ to n terms $= \frac{2}{3} \cdot \frac{n(n+1)(n+2)}{2}$ which leads to the required result.

* It is not unlikely as pointed out by Dr. R. P. Paranjpye that the sum of the squares of the first n natural numbers may have been discovered by the early mathematicians by arranging the numbers 1, 2, 3, . . . each repeated $2n+1$ times in a rectangular array and grouping the elements together as indicated below:

$$\begin{array}{c|c|c|c|c|c|c} 1 & 1 & 1 & 1 & 1 & 1 & 1 \\ \hline 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ \hline 3 & 3 & 3 & 3 & 3 & 3 & 3 \\ \hline \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ n & n & n & n & n & n & n \end{array} \left| \begin{array}{c} 11 \\ 22 \\ 33 \\ \vdots \\ \vdots \end{array} \right| \dots (2n+1) \text{ terms}$$

The total sum of all the numbers $= \frac{n(n+1)(2n+1)}{2}$ and the sums of the numbers in the gnomons are, in order, 3, 3.2^2 , 3.3^2 , . . . Hence $3(1^2 + 2^2 + 3^2 + \dots) = \frac{n(n+1)(2n+1)}{2}$ which leads to the formula in question.

Similarly other cases of summation given in Gaṇitasāra Saṅgraha can be worked out. The main difficulty is to get at a suitable arithmetical progression and to group the terms appropriately. [I have discovered a rule for finding such a progression (*vide* my note on 'Series Summable as Arithmetical Progressions' in Mathematical Notes No. 23, June 1925, published by the Edinburgh Mathematical Society). Suppose it is required to find $\sum (An^3 + 3Bn^2 + Cn + D)$. In the first place, it is possible to find a suitable A. P. only when $2B^3 = A(BC - AD)$ and A, A+B are of the same sign, and $A \neq 0$; if these conditions be satisfied, the first term and the common difference may be taken respectively as $\frac{1}{2} \left(\frac{B^2 + AD}{Bt} + \frac{A}{t^2} \right)$ and $\frac{A}{t^2}$, t being an arbitrary positive integer such that $\frac{t(B+A)}{A}$ is also a positive integer. The series should be grouped such that the first group may contain $\frac{t(B+A)}{A}$ terms, the second group $\frac{t(B+2A)}{A}$ terms, the third group $\frac{t(B+3A)}{A}$ terms, and so on.]

Some Semi-Geometrical Identities.

The next topic in Āryabhaṭa's mathematics is a pair of semi-geometrical identities, *viz.*,

$$(a+b)^2 - (a^2 + b^2) = 2ab; \sqrt{4ab + (a-b)^2} \pm (a-b) = 2a \text{ or } 2b.$$

It is likely that these identities were intended to solve simultaneous equations of the types :

$$x \pm y = p, xy = q; x \pm y = p, x^2 + y^2 = q; xy = p, x^2 + y^2 = q.$$

Interest Problems.

Āryabhaṭa then gives a rule for finding the interest on the Principal, given the principal (P), the interest on the amount (A), and the time (t). The rule is obtained from the quadratic equation *

$$Pr^2 t^2 + Prt = A.$$

The problem suggests that even in the olden days money-lenders were deducting Banker's interest at the outset while lending money. As Mr. Kaye says, considerable acquaintance with the rules that govern interest problems must have obtained in those times and at least the rudiments of compound interest were understood. For various types of interest problems, there is not a wealthier storehouse than Mahāvīrāchārya's Gaṇitasāra Saṅgraha,

* Here, as well as in the Section on Series, Āryabhaṭa casually introduces the general formula for the solution of the quadratic equation. Possibly the problem of attacking the quadratic equation must have been faced by the early mathematicians for the first time in connection with the inverse problem of finding the number of terms of an A. P. or the rate per cent in a compound interest calculation.

(Text, pp. 65-75) वृद्धि विधान where he treats of the interest problems as illustrative of the principle of the Double Rule of Three or पञ्चराशिक.

The Rule of Three and Operations with Fractions.

After giving the rule for finding interest, Āryabhaṭa proceeds to enunciate the principle of the rule-of-three or त्रैराशिक and the usual rules for the division of one fraction by another and for reducing all fractions to a common denominator. Bhāskara, Brahmagupta, Śrīdhara and others use the same nomenclature and extend the rule of three to five, seven, nine, and eleven terms.

The Rule of Inverse Operations.

The rules for reversing the steps in a mathematical process (called व्यस्तविधि) are enunciated thus by Āryabhaṭa :—

गुणकारा भागहारा भागहारा ये भवन्ति गुणकाराः ।

यः क्षेपस्तोपचयोऽपचयः क्षेपश्च विपरीति ॥

Every operation in algebra is connected with another which is exactly opposite to it in effect, *i.e.*, what is done by one is undone by the other; thus we have the pairs of inverse operations: addition and subtraction; multiplication and division; root and power, etc. This principle is very useful for verification purposes and also for the solution of equations where one has to clear the variable from all the ramifications in which it is involved. It is specially serviceable in solving the so-called 'think of a number' problems or boomerang problems. For example, Āryabhaṭa's commentator, Paramādiśwara, gives this illustration :

What is the number which, multiplied by 3, divided by 5, the quotient increased by 6, the square-root of the sum diminished by 1, and again squared yields the result 4?

The result obtained by reversing the operations in order may be expressed as $\left\{ (\sqrt{4+1})^2 - 6 \right\} 5 \div 3$, *i.e.*, 5. Bhāskara and others give similar rules.

An Algebraic Identity.

We next come to a very elegant identity which is wrongly believed to be a plagiarism from Greek source. It is in Āryabhaṭa's words:

राश्यूनं राश्यूनं गच्छधनं पिण्डितं पृथक्त्वेन ।

व्येकेन पदेन हतं सर्वधनं तद्भवत्येव ॥

In modern notation, $\sum_{1}^n (X_r - X_r) \div (n-1) = \sum_{1}^n X_r$. The rule is quite simple and not beyond Āryabhaṭa's mathematics. From a fancied resemblance to the Greek Theorem known as the *Epanthem* of Thymaridas

(Diophantus, p. 115) and from the fact that two particular cases of this theorem occur in Diophantus (p. 135), it is argued by Cantor and Mr. Kaye that the problem is of Greek origin. In this connection, it may be well to point out that Mahāvīrāchārya gives just the problem which, Iamblichus says, can be reduced to Thymaridas' form. [*Vide* Diophantus, pp. 115, 116 and Gaṇitasāra Saṅgraha, pp. 95 (Text), 153 (Translation by M. Rangacharya).] But Mahāvīrāchārya (*Ibid.*, pp. 153-163, Translation by M. Rangacharya) gives many other plentiful varieties of problems not found in Diophantus, Book I or in any other ancient Greek work.

As Mr. E. B. Havell remarks in his 'History of Aryan Rule in India' (pp. 140-141), it would be wrong to conclude that the mercantile relations between Greece and India had any deep or abiding influence upon Indian culture or upon the religious movements of the times. Hellenistic culture drew more inspiration from Indian influence than Indian culture from Hellenistic influence. India always gave others more than she took from them. Possibly the seeds of Indian Arithmetic and Algebra which flowered later in the Alexandrian School were laid there by the early Dravidian traders who carried the natural products of South India to Babylon, Egypt and Greece. Probably also the Sumerian founders of Babylonia were of Dravidian stock as the striking resemblances in ethnic type would show. (*Vide* Hall's 'History of the Near East', pp. 173-174.)

The comparatively greater perfection of Greek Mathematics as embodied in such works as those of Euclid, Ptolemy, and Diophantus and in contrast with it the elementary and fragmentary nature of Indian mathematics with, of course, exceptionally brilliant development in certain directions, are proof sufficient to conclude that the latter is of indigenous growth and not borrowed from the former. It is not proper to argue that Indians had stolen from the Greek works merely on the score that one or two of their problems had been anticipated in the early Greek or Alexandrian works. One may also add that the ancient Indians lacked the will, if not the genius, which the Arabs possessed in a high degree, to translate foreign works into their own language.

The Simple Equation and Relative Velocity.

After the so-called Indian version of the *Epanthem* follows the ordinary method for the solution of a simple equation where both the sides are linear functions of the variable. This is succeeded by a discussion of the relative velocity of one moving body with respect to another, when both are moving (i) in the same direction, and (ii) in opposite directions.

The Linear Indeterminate Equation.

We now come to the very crown of Āryabhaṭa's mathematics—his solution of the linear indeterminate equation. He puts the problem thus:

* To find a number which leaves residues n, n' with respect to the moduli m, m' respectively.

If $n > n'$, m is called अधिक्राग्रभागहार or the divisor corresponding to the greater residue (not the greater divisor as wrongly translated by Mr. Kaye) and m' is called ऊनाग्रभागहार or the divisor belonging to the lesser residue (not necessarily the lesser divisor), while the residue for the modulus mm' is called द्विच्छेदाग्र.

To quote Āryabhata's words : --

अधिकाग्रभागहारं छिन्द्यादूनाग्रभागहारेण ।
 शेष परस्परभक्तं मतिगुणमग्रान्तरे क्षितं ॥
 अथ उपरिगुणितमन्ययुगूनाग्रच्छेदभाजिते शेष ।
 सधिकाग्रच्छेदगुणं द्विच्छेदाग्रसधिकाग्रयुतम् ॥

Divide अधिक्राग्रभागहार † by the other divisor and continue the process with the remainders. Write out the successive quotients in a vertical line, one underneath the other. Choose a suitable integer (called *mati*) which when multiplied by the final remainder and added to the difference between the given residues may yield an integral quotient when divided by the final divisor. Set down the *mati* beneath the last quotient and beneath it place the aforesaid integral quotient. Multiply the lower by the upper and add the last and continue this process till the operations cannot be further pursued. Divide (if possible) the figure thus obtained by the first divisor and multiply the remainder by the second (divisor). The product added to the corresponding residue is the required result.

The rationale and the genesis of this method can best be explained by an example.

$$\text{Let } m'=29, n'=15, m=45, n=19$$

We have to find x and y to satisfy the equation :— $29x+15=45y+19$.

The method that immediately suggests itself is to express x in terms of y , i.e., $x=y+\frac{16y+4}{29}$

Since $\frac{16y+4}{29}$ should be an integer, put $\frac{16y+4}{29}=z$

Then $y=z+\frac{13z-4}{16}$. Again set $\frac{13z-4}{16}=p$, so that $z=p+\frac{3p+4}{13}$. At this stage since the co-efficient of p is small, we readily choose the *mati* (viz.) $p=3$ which makes $3p+4$ divisible by 13.

* The form in which Āryabhata has worded this problem makes it very probable that the linear indeterminate equation was first studied in India merely as an inverse problem under division. The later Hindu mathematicians must subsequently have discovered a good application of it in verifying astronomical calculations as well as in obtaining simple approximations to unwieldy fractions frequently occurring in astronomy.

† If अधिक्राग्रभागहार be the smaller of the two divisors we have only to put 0 (zero) for the first quotient and write down the number itself as the remainder, using it next as the divisor for the other हार. The division may be further continued as directed.

Now to find the value of x , we have only to retrace our steps and get $z=4$, $y=7$, $x=11$. This is just the process which Āryabhaṭa asks us to do, detaching the co-efficients of y , z and p , (*mati*), and $\frac{3p+4}{13}$. Āryabhaṭa's rule is therefore nothing more than a method of detached co-efficients for carrying out the backward process of evaluating successively z , y , and x . We may arrange the successive columns of reduction thus :

$$\begin{array}{cccc} 1 & 1 & 1 & 11 \\ 1 & 1 & 7 & 7 \\ 1 & 4 & 4 & \\ 3 & 3 & & \\ 1 & & & \end{array}$$

Now, 11 and 7, the two top figures, are the values of x and y respectively. The required number is $29 \times 11 + 15$, i.e., 334. It may also be obtained by using the other divisor 45 and the corresponding residue 19; thus $45 \times 7 + 19$ also gives 334.

In the above method we are reducing the given indeterminate equation to others of simpler form with smaller co-efficients and we may stop our continued division at any stage where the co-efficients are sufficiently small to enable us to read the results immediately. Thus, if we can easily see at the second stage itself that z must be 4 which is सति, we may form the shorter *valli*

$$\begin{array}{l} 1 \text{ (11)} \\ 1 \text{ (7)} \\ 4 \\ 3 \end{array} \quad \begin{array}{l} \text{from which we immediately derive the value 11 by the} \\ \text{process अथ उपरि गुणितं, etc.} \end{array}$$

The above process is styled by later Hindu mathematicians as Vallikā-kuṭṭākāra (वल्लिकाकुट्टाकारः). In Bhāskara's method the creeper or *valli* is extended to its utmost length. (*Vide* Līlāvātī verse 67.) Thus in the previous example, we may put $\frac{3p+4}{13}=q$; then $p=4q+\frac{q-4}{3}$; and put again $\frac{q-4}{3}=r$, so that $q=3r+4$; lastly set $r=0$. So Bhāskara's *valli* will be as shown in the margin, the rest of the process being the same as before. But one important point which Brahmagupta and others give, Āryabhaṭa fails to mention, viz., if the final quotient in the creeper be of the odd order (as happens in the marginal illustration) the result obtained (from the manipulation of the elements of the creeper) is positive; otherwise, the result is negative; and hence to derive a positive result in the latter case one has to *subtract* its numerical value from a suitable multiple of the अधिकाग्रभागहार.

It is interesting to note that Mahāvīrāchārya gives exactly Āryabhaṭa's rule using Āryabhaṭa's nomenclature.

भाज्यच्छेदाग्रशेषैः प्रथमहृतिफलं त्याज्यमन्योन्यभक्तं
न्यस्यान्ते साग्रमूधैरुपरिगुणयुतं तैस्समानासमाने ।
स्वर्णघ्नं व्यासहारौ गुणधनमृणयोश्चाधिकाग्रस्य हारं
हत्वा हत्वा तु साग्रान्तरधनमधिकाग्रान्वितं हारघातम् ॥

(The nomenclature of Āryabhaṭa is underlined in the verse.)

[In this connection I may suggest an alternative method for the solution of the linear indeterminate equation, based upon the method of expressing any fraction as the sum or difference of fractions with unit numerators. This process was not unknown to the early Hindus, for we find in the Sulva Sūtras (200 A.D.), $\sqrt{2}$ expressed approximately in this form, viz., $1 + \frac{1}{3} + \frac{1}{3 \cdot 4} - \frac{1}{3 \cdot 4 \cdot 5 \cdot 6}$. The method may best be illustrated by an example, say, $32x + 17 = 79y + 10$.

To express $\frac{32}{79}$ as the sum or difference of unit fractions, we have only to divide 79 successively by 32 and the absolutely least residues obtained during the process :

$$\begin{array}{r}
 32) 79 \ (2) \\
 \underline{64} \\
 15) 79 \ (5) \\
 \underline{75} \\
 4) 79 \ (20) \\
 \underline{80} \\
 -1) 79 \ (-79) \\
 \underline{79} \\
 0
 \end{array}$$

Thus $\frac{32}{79} = \frac{1}{2} - \frac{1}{5} + \frac{1}{5 \cdot 20} + \frac{1}{5 \cdot 20 \cdot 79}$

The given equation may be reduced to the form

$$\frac{32x}{79} = y - \frac{7}{79}$$

$$i.e., x \left\{ \frac{1}{2} - \frac{1}{5} + \frac{1}{5 \cdot 20} + \frac{1}{5 \cdot 20 \cdot 79} \right\} = y - \frac{7}{79}$$

Obviously, if we put $x=25.20$. (-7), y becomes an integer.

The least values of x and y are 22 and 9.

N.B.—1. Since we are taking the absolutely least residue at each step, the number of unit fractions cannot exceed \log_2 (divisor).

2. The above method will fail sometimes when the greater of the two co-efficients, those of x and y is composite; for example, let $11x=72y+13$, which expressed in the above form leads to $x \left\{ \frac{1}{8} - \frac{1}{72} \right\} = y + \frac{13}{72}$. But if we put $x = -13$, $y = -\frac{13}{8}$, a fractional value. Thus we fail to get an integral solution. This is due to the fact that one of the residues in the process of division happens to contain a factor of the dividend; and if the co-efficient of y had been prime, such an occurrence would be impossible. Hence in such cases

we may add to the greater co-efficient (e.g., 72) a suitable multiple of the other co-efficient (viz., 11) such that the sum may be a prime and this is certainly possible from Dirichlet's Theorem, viz., that $mx+n$ represents infinitely many primes if m and n are relatively prime. Thus since $72+11=83$ a prime, we can solve by the above method $11x=83y+13$ and get $y=7$ which holds good for the original equation also.]

It is obvious that Āryabhaṭa's rule is more primitive than that of his successors who have elaborated upon the rule and pushed it to its logical conclusion. When analysed, the rule implies merely successive reductions to simpler indeterminate equations until one is reached whose solution can be immediately guessed. This is the true significance of *mati* in Āryabhaṭa's verse.* It is just the method which will naturally suggest itself to any gifted mind and it is therefore no wonder that Āryabhaṭa or any of his predecessors should have discovered it.

The theorem underlying the rule is not really complicated as Mr. G. R. Kaye imagines, unless one reads into it all the modern algebraic ramifications of the general continued fraction. Hence, it is not necessary to go in search of the orderly processes by which, according to our orientalist, such a complicated theorem is bound to be preceded. Mr. Kaye evidently confuses between the logical and the psychological orders of evolution of mathematical ideas. Psychologically, there is ample justification for the development of the above ideas in Āryabhaṭa's mind without a previous knowledge of such preliminary notions as set forth by Greek writers, especially Euclid. The fact that we nowhere find in the Greek works the rule as given by Āryabhaṭa or anything analogous to it (however remote the analogy as in the case of the *Epantem*) is sufficient justification to attribute to Āryabhaṭa or the early Hindus the first foundation of Indeterminate Analysis.

Another point to note in this connection is that long before the Alexandrian Christians had begun to wrangle about the dates in the ecclesiastical calendar, the Hindus had felt an urgent need for developing their Indeterminate Analysis to help them to verify their huge astronomical calculations. For, as Bhāskara puts it,

* Failing to understand this aspect of *mati*, one of the commentators on Āryabhaṭa, Devaraja by name, puts the following query in his 'Kuttākāra Āirōmani':—

'When the problem can be solved without the trouble of choosing a *mati* as in Bhāskara's method, why should it not have been adopted by Āryabhaṭa?'

He defends the use of *mati* on the score that it is not necessary for problems on निरग्रकुट्टाकार discussed by Bhāskara. He does not realize that both साग्रकुट्टाकार and निरग्रकुट्टाकार are practically one and the same and *mati* is no more essential in the one than in the other. Evidently the commentator does not perceive that Āryabhaṭa's method is more primitive than Bhāskara's, which marks a later stage in the evolution of the linear Indeterminate Analysis.

अस्ति अस्य ग्रहगणिते महानुपयोगः । तदर्थं किंचिदुच्यते—कल्पयाथशुद्धिविकलावयोपं पट्टिशभाज्यः
कुदिनानि हारः । . . .

‘There is great use for this process in mathematical astronomy in the calculation of lapsed terrestrial days from the residual seconds, etc.’ (*Vide* Praśna Adhyāya, verses 11-22. Bhāskara’s Gōlādhyāya.) There is thus greater reason for claiming, on behalf of the Hindus the development of the Indeterminate Analysis, than on behalf of the wrangling Christians of Alexandria.

Conclusion.

The Gaṇitapāda ends with the Indeterminate Equations. The rest of Āryabhaṭa’s work is astronomy. On the whole, the impression left by the Gaṇita is that it is a collection of working rules necessary for solving the practical problems of life such as survey and interest problems and the practical problems of astronomy which are closely connected with a Hindu household even to-day. The author’s style is coldly business-like, lacking the richness of imagination, the zeal in problem-setting, and the extravagant poetry characteristic of other Indian authors, for example, Bhāskara and Mahāvīrāchārya. Very likely, Āryabhaṭa’s work has superseded the work of earlier Indian writers in the field and in default of discovery of fresh manuscripts in unexplored libraries, it must be idle to speculate how much of his work is really original.

Enough has been said in the previous pages to show to what extent the later Hindu astronomer-mathematicians were indebted to Āryabhaṭa. He was the first to give a form and an individuality to the scattered bits of mathematical knowledge that existed before his time and but for his pioneer work, there is no knowing what turn subsequent Indian Mathematics would have taken. The rôle of the Āryabhaṭīyam in giving a definite bias to Indian Mathematics has its historic parallel and counterpart only in two other great ancient mathematical compositions—the Elements of Euclid and the Arithmetica of Diophantus.

THE BIRD AND SERPENT MYTH.

BY PROF. KALIPADA MITRA, M.A., B.L.

(Continued from last issue.)

ANOTHER point connecting ancient India with ancient Babylonia or Mesopotamia is furnished by the system of urn burial. "Recent investigation has proved that the pre-historic tombs of Southern India, *i.e.*, of the country lying to the south of the Vindhya Hills and the river Narbada, are of the same type as the pre-historic tombs of Baluchistan, Southern Persia, Mesopotamia, Anatolia and the Mediterranean islands..... As the same characteristics are to be observed in the case of the majority of South Indian pre-historic tombs, it cannot be denied that there was some cultural connection with the modern Dravidians of South India and the ancient pre-historic people, who lived on the eastern coast of Asia Minor, Egypt, Anatolia, Lycia and the adjoining islands....." ⁶⁴ The Cretans called themselves "Termilai", and the Lycians called themselves "Trm-mili" in their most ancient inscriptions. The most ancient form of the word "Dravidian" is "Tramila" or "Dramila" from which the modern South Indian word "Tamil" is derived. The similarity of the names and the burial customs (indicated in the resemblance between the pre-historic tombs of Crete, Mesopotamia, Sindh, Baluchistan and Southern India) cannot be accidental. ⁶⁵

J. E. Taylor found two large jars holding the body in the excavations at Ur. He also saw there the usual *stage-tower*, of two stories, associated with the great temple of Sin, the moon-god, the centre of whose cult was at Ur. ⁶⁶ The name of the stage-tower at Borsippa was E-ur-imin-an-ki, "House of the *seven* divisions of Heaven and Earth". ⁶⁷ Ashurbanapal's (668—626 B.C., the last king of Assyria to build the 'tower') 'tower' consisted of four—possibly five—stages, rising to a height of over 150 feet. In a temple discovered at Bismyer going "back to at least 3000 B.C., and perhaps to a still earlier date" was found a fragment of blue-stone vase exhibiting a drawing of stage-tower—showing four stories or stages of receding size..... "The number of stages thus super-imposed varied from four—which seemed in the earlier period to be the usual number—to seven..... A tablet discovered by the late George Smith and recently published furnishes the height of the seven

64. *The Statesman* of the 26th October, 1924 (Calcutta).

65. *J.I.A.*, v. 255; *Imperial Gazetteer*, II 96.

66. Jastrow—*op. cit.*, pp. 28, 29.

67. *Ibid.*, p. 30 f.n. Italics are mine.

stories of such a stage-tower in Babylon (*Zikkurat*, "high place" as the Babylonians called it) as 300 feet." 68 Dr. Rhys Davids discovers a connection between the *Satta-bhūmaka-pāsāda*—building of seven stories in height, which is so often mentioned in Pāli literature, 69 and the 'stage-tower' or the *Zikkurat* just mentioned. "It seems almost impossible to avoid the conclusion that these curious buildings were not entirely without connection with the seven-storied Ziggurats which were so striking a feature among the buildings of Chaldea. We know in other ways of connections between the civilization of the Ganges valley and that of Mesopotamia; and it would seem that in this case also the Indians were borrowers of an idea....." 70.

Enough has been said to establish the connection between the civilizations of archaic India and archaic Mesopotamia. The Sumero-Dravidian connection is fairly admitted. The question in dispute now is—Did the Dravidians come into India? or did they go out of India? Here we stumble upon a veritable Babel. It is held by some that the pre-Dravidians really were the *aborigines* and the primitive existing race, "a dark negroid race of low culture" ethnically related to the Veddas of Ceylon, the Toalas of the Celebes, the Batin of Sumatra and possibly the Australians. 71 The later and more cultured Dravidians, (differing from the Pre-Dravidians) however, were invaders from the north, "speaking a language of "Scythian" affinities, making their way through Baluchistan and ultimately passing down into the regions south of the Vindhya. This race may be called the proto-Dravidian." The mixture of these *proto-Dravidians* with the *pre-Dravidians* has given rise to the Dravidians of history. 72 Since Mr. Rapson holds "the assumption that the Dravidians are aboriginal" to be "no longer tenable", the question naturally arises, "Is there any evidence to show whence they came into India?" 73 How can the existence of Brāhuī, "the large island of Dravidian speech in the mountainous regions of distant Baluchistan which lie near the western routes into India", be explained? Mr. Rapson gives an explanation. "Is Brāhuī a surviving trace of the immigration of Dravidian-speaking peoples into India from the West? or does it mark the limits of an overflow from India into Baluchistan? Both theories have been held; but as all the great movements of peoples have been into India and not out of India and as a remote mountainous district may be expected to retain the survivals of ancient races while it is not likely to have been colonised, the former view would a priori seem to be by far the more probable." (Italics

68. *Ibid.*, pp. 47, 48; 52, 53; 375, 376.

69. In addition to *Jāt.* 1. 227, 346; 4. 378; 5. 52, 426; 6. 577, etc., see *Dh. A.*, iii. 24, 46; ...

70. Rhys Davids—*Buddhist India*, p. 70.

71. *C.H.I.*, pp. 41, 593, 594. Haddon—*The Wanderings of Peoples*, pp. 17, 18.

72. *C.H.I.*, p. 594.

73. *Ibid.*, p. 42.

mine.) Unfortunately to me this argument has not much convincing force about it. Sir Thomas Holdich also supports the theory of Dravidian immigration into India through the western gates. He says: "In the illimitable past it was by this way (*i.e.*, by the Makran coast gate) that the Dravidian peoples flocked down from the Asiatic highlands to the borderland of India. Some of them remained for centuries either on the coastline, where they built strange dwellings and buried each other in earthen pots, or they were entangled in the mass of frontier hills which back the solid Kirthar ridge, and stayed there till a Turco-Mongol race, the Brāhuis, overlaid them, and intermixing with them preserved the Dravidian language, but lost the Dravidian characteristics." ⁷⁴ And Mr. R. B. Foote has endeavoured, on the assumption, to track out the trail in his "Indian Pre-Historic and Proto-Historic Antiquities." ⁷⁵ But who were the Dravidians? "Might they not possibly," asks Mr. Foote, "be representatives of the brown race described by Professor Elliot Smith, F.R.S., in his learned and yet charming little book, 'The Ancient Egyptians?'" ⁷⁶ This is a very pertinent question in the light of the recent investigation which discovers the same type characterizing the ancient pre-historic tombs of such Mediterranean islands as Crete, Cyprus and Lycia, and Mesopotamia, Baluchistan, Sindh and Southern India. I will again refer to it.

I am, however, inclined to agree with the late Sir Herbert Risley in his view that the Dravidian peoples are autochthons of the Deccan and the South of the Peninsula. Dr. Haddon says: "*The Dravidians may have been always in India*: the significance of the Brāhuī of Baluchistan, a small tribe speaking a Dravidian language, is not understood, probably it is merely a case of cultural drift." ⁷⁷ As has already been said H. R. Hall holds the view that the Sumerians came into Western Asia from South India, where even their writing may have been invented, which in its later developed form in Babylonia was the cuneiform characters in the inscriptions. Brāhuī only marks a stage in the track of the Dravidians on their way from India to Sumer. The Sumerian civilization is the earliest known in the world, ⁷⁸ and if its Dravidian origin be accepted, then a very ancient date for the Dravidian civilization must have to be admitted. The date of Sargon of Akkad, the founder of the dynasty of Akkad, has been fixed at 2800 B.C. ^{78a} Now Akkad got her civilization from Sumer. Allowing for the development of Sumerian civilization, the Dravidian settlement of Sumer may probably be placed at a date not

74. Sir Thomas Holdich—*The Gates of India*, pp. 142—43.

75. P. 38, *et. seq.*

76. *Ibid.*, p. 184.

77. *The Wanderings of Peoples*, p. 26.

78. *Ibid.*, p. 19. See also *I.A.*, Vol. LI, p. 122.

78a. *I.A.*, Vol. LI, p. 135.

later than 5000 B.C. At any rate it was considerably older than the Babylonian civilization of Sargon of the third millennium B.C.

Thus the Dravido-Sumerian civilization was accepted by Semitic Akkad, for the Semites absorbed much of the Sumerian culture—the script, the religious beliefs, the rites, the military organizations and other features. “From the time of Hammurapi, we may drop all distinctions of Sumer and Akkad and speak of the Sumero-Akkadian kingdom, or more briefly Babylonia.....”⁷⁹ But Babylonia had to contend against many hostile forces. In the ninth year (2071 B.C.) of Shamsuleena, the son and successor of Hammurapi, there was a conflict with the “Cassite hordes”.⁸⁰ In 1926 B.C. the Hittites brought the dynasty of Babylon to a sudden end. “The name Khatti given to them included a variety of groups of whom the Mitanni in north-western Mesopotamia represent a sub-division.” The Cassites conquered the entire country in 1760 B.C. These Cassites, however, were a people of low level of culture, unless it be the horse which they introduced,⁸¹ and Jastrow thinks that the Cassites appear to have adopted the civilization of Babylonia in a surprisingly short time. These Cassites were associated with the Aryans. The Mitanni kings bore Indo-European names and spoke an Indo-European language. The deities they worshipped such as *Mi-it-ra*, *Uru-w-ra*, *In-da-ra* and *Na-sa-at-ti-ia* have now been fairly identified to be *Mitra*, *Varuna*, *Indra* and *Nāsatya*, the Vedic gods of the Indo-Aryans. “The Mitanni tribe was called “Kharri” and some philologists are of opinion that it is identical with *Arya*....”⁸² Dr. Haddon takes both the Cassites and the Mitannis to be “Aryans”. “These Mitanni chiefs,” says he, “preserved traces of a stage of culture somewhat, but not much, earlier than that indicated in the *Rig Veda*.”⁸³ Hroziny supposed that the official Hittite of Boghaz Keni was an Indo-European language; but though Dr. Forrer has shown it to be not so, it is admitted that it contains a large admixture of Indo-European words and grammatical forms, along with a similar admixture of Assyrian and even Sumerian words and expressions. Dr. Sayce holds “that Indo-European languages existed and developed in Asia Minor side by side with those that we term Asianic, and *that contact between them produced its inevitable consequences, loans and borrowings on both sides.*” Accordingly I hold the resemblances pointed out by Tilak in the “*Chaldean and the Indian Vedas*” were more probably due to the existence of the two races as neighbours in Mesopotamia; and Dr. Sayce says, “*one of the unexpected*

79. Jastrow—*op. cit.*, p. 148.

80. *Ibid.*, pp. 150, 151, 153. See also Haddon—*The Wanderings of Peoples*, p. 20.

81. Jastrow—*op. cit.*, pp. 154, 155. Haddon—*op. cit.*, p. 20.

82. *Myths of Babylonia*, p. 80. But see also *I.A.*, Vol. LI, p. 134.

83. *The Wanderings of Peoples*, p. 20.

facts that has emerged on the linguistic side, is that the ancestors of the Aryan tribes of north-western India were still living in Eastern Asia Minor in the fifteenth century before our era." ⁸⁴ The position is summed up by Havell. Says he, "In the second millennium B.C. or when the Aryans were pushing their way into Northern India, the Mitannians, an Aryan people worshipping the nature spirits of the Vedas. Sūrya, Varuṇa and Indra, had founded a powerful kingdom between the Tigris and Euphrates, and the old Vedic tradition of the conflicts between the Devas and Asuras can perhaps be referred to the struggles between the Aryan worshippers of Sūrya and the Semites of Assyria, who became the subjects of Mitanni. About 1746 B.C. the Kassites, another branch of the Aryans, made themselves masters of Babylon, and thus an Aryan dynasty ruled over Babylonia for the following six hundred years. During these centuries it is more than probable that the Aryans of Mesopotamia assisted in the colonization of the Punjab, making use of the sea-route between India and the Euphrates Valley by which the Sumerians, the ancient Dravidian inhabitants of the Sea-Land to the south of Babylon, must have come from India. A great impulse to Aryan immigration into the Punjab by sea probably came about 1367 B.C., when after the death of King Dushratta—a name familiar in ancient Indian literature by the story of *Ramayana*—Mitanni was thrown into a state of anarchy, being harried on the east by the Assyrians and on the west by the Hittites, so that the only way of escape for the vanquished Aryan warriors would have been down the river to the sea." ⁸⁵

But the word *sindhu* (muslin), it may be urged, sticks in the throat; for if *sindhu* be an Aryan product and if the Aryans came by way of sea so late as 1367 B.C. from Mesopotamia, how could *sindhu*, necessarily a late product, find a place in the ancient Babylonian list of clothing? The difficulty arises, however, from certain implied assumptions—*viz.*, (i) that it is an Aryan product, (ii) the immigration referred to by Havell was the *first* Aryan immigration. The Aryan immigration by sea is *one* of many earlier Aryan immigrations by land; these earlier Aryans in the Indus Valley, may have produced the *sindhu*, and admitting that the Aryans who came by land were innocent of the sea, the Chaldeans could have come by way of sea to the Indus long before the Aryan sea-immigrants came and carried it away, or as Ragozin explains the Dravidians might have carried the Aryan stuff in their vessels to Babylonia. *Sindhu* is the product of the Indus country; it may not have been an Aryan product. Or it might have been carried about the fourteenth century B.C. from thither. For memories of North Indian

84. *J.A.*, Vol. LI, p. 133.

85. Havell; *Aryan Rule in India*, pp. 4, 5.

voyages from the West Indian sea-ports, e.g., Bharukaccha (modern Broach), Sovira, etc., to Babylon have been preserved in Pāli literature such as the *Supparaka Jātaka* (No. 463), and the *Baveru Jātaka* (No. 339). The Indian navigators traversed the *Aggimālā*, *Dadhimālā*, *Kusamālā*, *Nalamālā* and *Valabhamukha* seas which have been fairly identified. It seems that the Indians saw the countries of Nubia, Somaliland, Arabia and Babylonia and may have even reached the Mediterranean through the *Nalamālā Samudra* which connected it with the Red Sea.⁸⁶ Fick supposes these to have been coasting and not high sea voyages; that Indian sailors had probably gone to Babylon, but such voyages were not frequent, the word Babylon being introduced in the (ship-wrecked) sailors' *fudges* as a signal to the listeners to expect something wonderful.⁸⁷ It is difficult to nod assent to this interpretation. The *Milinda* gives the objective to the Indian sea-going trade in the first century A.D. (p. 359): "As a ship-owner who has become wealthy by constantly levying freight in some sea-port town, will be able to traverse the high seas and to go to Vanga, or Takkola or China, or Sovira, or Surat or Alexandria or the Koromaṇḍal Coast or Further India..."⁸⁸ Pliny the elder, quoting⁸⁹ from the lost work of Cornelius Nepos, refers to an extraordinary voyage performed by the Indians. "This was a voyage performed by Indians who had, before 60 B.C., embarked on a commercial voyage and reached the coast of Germany. It is uncertain whether they sailed round the Cape of Good Hope and up the Atlantic Ocean, or went northward past Japan and discovered the north-east passage, skirting the coast of Siberia and sailing round Lapland and Norway into the Baltic. They were made prisoners by the Suevians and handed over to Quintus Metellus Celer, pro-consular governor of Gaul."⁹⁰ Whatever might have been the route taken by the Indians to reach the coast of Germany, "on a commercial voyage"—by the Atlantic or the Pacific, it is an example of superb courage and patience, and a first-rate knowledge of geography and skill in navigation. It does not seem that this voyage and that mentioned in the *Supparaka Jātaka* were the first and last of such daring enterprises recorded of the respective ages. The Indians were long practised in navigation even from the Vedic times, and it is not inconceivable that they should brave the ocean and embark on commercial enterprises—sometimes making coast voyages, at other times ploughing the high seas.

86. *J.B.O.R.S.*, Vol. VI, pp. 195, 196.

87. *The Social Organization in North-East India*, by Dr. S. K. Maitra (Cal.), p. 269.

88. *C.H.I.*, p. 212.

89. Book II, p. 67.

90. *Myths of China and Japan*, p. 34.

The Dravidian Serpent cult permeated the Chaldean civilization, and the Turanian Proto-Medes worshipped the Snake Symbol of Earth, which became identified by the Eranian Mazdayasnians with Angramainyush. Azidahak, the Serpent King of Iran, owes his origin to this Dravido-Proto-Median Serpent cult.⁹¹ The Vedic Vritra links with the Babylonian Tiamat, and may be coeval with the existence of the Aryans and Chaldeans as neighbours in Mesopotamia. Tiamat as the origin of evil personified *the deep and the tempests*: she is the enemy of order and good and is killed by Marduk, the Babylonian Lord of Deities. Vritra, the "draught dragon" holds the waters and is killed by Indra. Vritra (cloud) confines the waters as Paṇi conceals the kine; Indra kills him: the waters flow now unobstructed by the dragon.⁹² In Egypt likewise Serpent Osiris and his serpent mother confined the waters in the cavern during the period of the low Nile. After he is slain, the river, tinged with his blood, rose and inundated.⁹³ The hawk-god Horus, the sun-deity and the power of light fighting the serpent-god Set, the roaring storm, the night and power of darkness has already been related.

In pre-historic times Babylonia may have been connected with other parts of the world which owed the Serpent cult to her. In historic times there was an undoubted intercourse.

In a copy of the geographical survey of Sargon's empire discovered at the library of Assur there is a mention of what extended beyond the Empire. "To the Tinland and Kaphtor, countries which are beyond the Upper Sea (the Mediterranean), Dilmun and Magan, countries which are beyond the Lower Sea (or Persian Gulf), that is from the lands of the rising sun to the lands of the setting sun . . . his hand had conquered."⁹⁴ According to the Old Testament Kaphtor was Crete. Dr. Sayce, moreover, relates that another Sargon, high Priest of Assur, in B.C. 2180, *conquered Egypt*, then under an Ethiopian dynasty, and "*the island of Kaphtor*, and there received tribute from *Tin-Land beyond the Western Sea*". Dr. Forrer asks Dr. Sayce "Does this mean Britain?"⁹⁵

Let us examine the significance of the above statements. Kaphtor seems to be central in position linking the different avenues along which culture could radiate to the west and the east. I will take three examples of such transmission, *viz.*, (1) the spiral decoration, (2) the Baltic amber, and (3) the so-called Egyptian beads.

91. Ragozin—*Vedic India*, p. 310. See also Dhalla—*Zoroastrian Theology*, p. 6.

92. *R.V.* I. 32.

93. Haspero: *Dawn of Civilization*, p. 39.

94. *I. A.*, Vol. LI, p. 135.

95. *Ibid.*, pp. 135, 136. Italics are mine.

"The developed spiral," writes Mr. Hall, "appears suddenly in Egyptian art on seals and (rarely) in painting, at the beginning of the Twelfth Dynasty (c. 2000 B.C.), or shortly before, that is, at the end of the Third Early Minoan Period in Crete." *It appears to have been introduced into Egypt from Crete*, for it occurs in objects of early Minoan II and Minoan III date. The spiral ornament travelled along *the trade-routes through Europe.... In the Danubian cultural area* the spiral occurs in pottery of the early metal age. Following the road along the Moldau and the Elbe, it reached the *shores of Jutland, and ultimately passed into Scandinavia*. It reached England either along the Rhone or Danube Valley routes. Reference has been made to the Yorkshire chalk-drums on which it was inscribed.....*The earliest connection between Crete and Northern Europe is indicated by the finds of Baltic amber in Early Minoan strata*. It probably had a religious significance. Amber was carried down the Elbe and Moldau route as well as through the Rhone Valley to the shores of the Mediterranean, and across to England, Scotland and Ireland. It is believed that this trade was flourishing along the Elbe route *before 2000 B.C.*⁹⁶

Egyptian beads of blue glazed faience were discovered in Southern England. They belong, according to Dr. Sayce, to the latter part of the age of the Eighteenth Dynasty and the earlier part of the Nineteenth Dynasty. Mr. H. R. Hall discovered at Deir-El-Bahari thousands of blue glaze beads of the exact particular type of these found in Britain. "Ours are in all probability mostly of the time of Hatshepsut and so date to about 1500 B.C." Similar beads have also been discovered in Crete and Western Europe.....By whom were these Egyptian beads carried to Britain between 1500 B.C. and 1400 B.C.? Certainly not the Phoenicians.....*The sea-traders of the Mediterranean were at that time the Cretans*. Whether or not their merchants visited England we have no means of knowing. It is possible that they did.⁹⁷

It appears, therefore, from the above that between 2000 B.C. and 1400 B.C. at least, Crete linked Egypt with Europe, even the distant Britain and Scandinavia.

The Nineteenth Dynasty fragmentary Egyptian Folktale, "Setna and the Magic Book" and the "Deathless Snake" already mentioned came from Asia Minor, either at an earlier date when the Sargons conquered Egypt or it might have been carried there by the Hittites subsequently.

Now where was the "Tin-Land"? Dr. Forrer's query has the savour of a *leading question* and expects naturally the answer 'yea'. Angelo Mosso

96. *Myths of Crete*, pp. 248, 249. Italics are mine. The dates should be noted,

97. *Ibid.*, pp. 325, 326.

thinks that tin was got from the mines of Britain. "English tin was brought through France to the mouth of the Rhone at the end of the Neo-lithic period, whilst no trace of any trade in tin has so far been discovered in the East (which according to him means China)." ⁹⁸ The possible sources of tin were in the east, North-western Arabia,⁹⁹ Anatolia, Drangiana (Khorasan, according to Mrs. Hawes), and in the west, Balearic Islands, Brittany and England. The mention of *Tin-Land* "beyond the Western Sea" in the inscription precludes the theory of the eastern source. Thus Britain might probably have been a supplier of tin. Egypt probably also got her tin from trade with Crete. This explains Egypt's free manufacture of bronze during the Twelfth Dynasty.¹⁰⁰

Or in later times the Hittites might have carried forward the Babylonian civilization to Crete or to the Greek coasts. "Meanwhile a forgotten people," writes Dr. Sayce, "who had much to do with the shaping of history of the Nearer East and *with carrying the culture of Babylonia to Greek lands*, had sprung again into existence. These were the people known to the Babylonians and Egyptians as well as the Old Testament under the name of the Hittites."¹⁰¹ Knosso (in Crete) fell in the Middle Minoan II Period (c. 2100—1900 B.C.); this was probably connected with the Hittite supremacy in Egypt and Babylonia at the time.

It might perhaps be objected that the Hittites were father-worshippers and that it is unlikely that they should help the dissemination of a cult associated with the worship of the mother goddess. But they adopted the cult of the land which they conquered. "With the Hittites," says Professor Garstang, "fell their chief god from the predominant place...But the Great Mother lived on, the goddess of the land. Her cult, modified in some cases profoundly by time and changed political circumstances, was found surviving at the dawn of Greek history in several places in the interior."¹⁰² History affords many instances of the victors being vanquished by the civilization of the vanquished. Sumero-Dravidian civilization was acquired by Semitic Akkad, the "Aryan" Cassites were overpowered by the Babylonian civilization, "the Aryan followers of Zarathustra" admitted the Proto-Median serpent-representative Azi Dahak into their myth, the Romans were conquered by the superior Greek civilization.

The Serpent cult might thus have reached Crete and radiated therefrom to Egypt, the Danubian valley, Scandinavia and Britain.

⁹⁸. *Ibid.*, p. 226.

⁹⁹. *Numbers*, XXXI, 22.

¹⁰⁰. *Myths of Crete*, p. 317.

¹⁰¹. *I.A.*, Vol. LI, p. 123.

¹⁰². *The Syrian Goddess*, pp. 17, 18.

The transmission of the myth from India to Arabia, China, Japan, Polynesia and perhaps to Central America is more easily explained.

I hold that the Bird and Serpent Myth—their mutual enmity and all that—was taken by the Arabs from India along the trade route. Hippalus (A.D. 47) first took advantage of the monsoon to cross the Indian Ocean and reach the western coast of India. But the *monsoon* was known to the Arabs from the earliest times. The monsoon itself (*mansam*) is an Arabic word. It is undoubted that they traded to India and Ceylon. Let me come to comparatively modern times. In the *Arabian Nights' Entertainments* we read an account of the Sixth and Seventh Voyages of Sindbad the Sailor to the island of Serendib. Here is the description: "In the island of Serendib all kinds of rare and curious plants and trees, particularly the cedar and the *cocoa*, grow in great abundance at the coast and the mouth of the rivers: some of its valleys also *produce diamonds*. I made a devotional journey up a very high mountain, to the *spot where Adam was placed*¹⁰³ on his banishment from Paradise." This word Serendib also occurs in the Folktales of Ceylon.¹⁰⁴ All this combined with an allusion to the elephants and the monsoon point to its identity with Selendip or the island of Ceylon. The reference in the fourth voyage to the land of the black anthropophagi seems to strengthen the theory of the Arabs' acquaintance with Lanka dvīpa (the land of the Rakshas), and the Spice Islands. The story of the roc bird in the second voyage of Sindbad perhaps shows his acquaintance with India. Sindbad finds himself stranded in the Valley of Diamonds with very big serpents there. "When the roc had alighted I quickly untied the knot that confined me to its foot and had scarcely loosed myself when it darted on a serpent of an immeasurable length and seizing it in its beak flew away." The roc bird comes and seizes the rhinoceros fighting with the elephant and carries away both of them in its talons for lunch. In the third voyage we find mention of the dwarf hairy savages. I am strongly of opinion that the roc bird answers to Garuḍa, the lunch on elephant and rhinoceros to that on the elephant and the tortoise and the dwarf savages, to the *Bālakhilya munis* in the Maṇabhārata (*Ādi*). The mention of the Princess of Bengal married to Prince Firouz Shah of Persia, in the story of the "Enchanted Horse" or the kin of the Bengali *Pakshirāja* leaves no room for doubting the identification. Apollonius of Tyana who came to India in the middle of the first century says that the art of understanding the language of birds by eating the liver of serpents was common to the Arabs and the Indians. [In the Folktales of Ceylon Prince Kassapa understands the language of birds.]¹⁰⁵ The

103. Adam's Peak.

104. Aline Van Dort—*Folktales of Ceylon*, p. 65.

105. *Op. cit.*, p. 70.

Arabs were traders by land route and the bulk of Egyptian trade passed through Arab lands. By land or sea, therefore, the Arabs got the myth from the Indians.

Let us now turn to China. There seems to have been in the third century B.C. a sea trade between China and Western Asia, *viz.*, India. The name of India as *sindhu* or *shindu* was known to the Chinese historians in the second century B.C. There is a tradition of communication between China and India in B.C. 217. But the more definite date of the introduction of Buddhists into China is 65 A.D. under King Mingti of the Han Dynasty. 106 Buddhist missionaries of Asoka might have come to China, and there is a tradition that lends some colour to it, but dismissing these to be "half fairy-tales" we are sure of the information that during eight hundred years (67—789 A.D.) Hindu scholars came to China and Chinese scholars came to India.¹⁰⁷ Nothing helps more powerfully than religion in the transmission of religious myths. In the *Mahasamaya Suttanta* of the *Dīgha Nikāya*¹⁰⁸ we read that both Nāgas and Suparṇas, their enemies, came to worship the Buddha.

Nāgā Suparṇā saraṇaṃ agamaṃ su Buddhāṃ.

The *Suparṇas* have been identified by Childers with the mythical Garuḷa or Garuḍa, the mythical roc-like bird of India.¹⁰⁹ This bird and serpent myth was carried into China along with Buddhism. The Chinese dragon, however, is a "complex wonder beast" and on the cultural base due to Babylonian influence which reached China long ago the Nāga beliefs were superimposed later on. The Nāga beliefs, however, were derived from Hinduism and associated ideas may, therefore, be seen in the Chinese dragon. As Buddhism reached Japan from China through Korea the combined characteristics are easily to be found in the Japanese myths.

The dragon gods of the Chinese and the Japanese may assume various shapes like the Indian Nāga. Theirs is essentially a watery nature. The Nāga wife of the exiled Prince in the Jātaka story requests him to carry their children in a huge water tub in which there are water lilies and plants as she explains their nature is watery and they would dry up if they were not carried in that fashion. The Chinese dragon is the 'rainlord', though Vritra is the dragon holding the waters. "The Chinese dragon thus links with the Aryo-Indian god Indra and other rain-and-thunder gods connected with agriculture including Zeus of Greece, Tarku of Asia Minor, Thor of Northern Europe, the Babylonian Marduk (Merodach), etc. There are sea-dragons that

106. Takakusu—I'Tsing. *Buddhist Records*.

107. *Visva-Bharati Quarterly* (1924, Oct.), p. 252.

108. *D. N. (P.T.S.)*, II, 258.

109. Mrs. Rhys Davids—*Book of Kindred Sayings*, I, p. 185.

send storms like the wind-gods and may be appeased with offerings. These are guardians of treasure and especially of pearling grounds."¹¹⁰ It is well known that Indian Nāgas guard the treasure.¹¹¹ The Chinese dragons do the same. "The dragon dwells in pools, it rises to the clouds, it thunders and brings rain, it floods rivers, it is in the ocean and controls the tides and causes the waters to ebb and flow as do its magic pearls and it is a symbol of the emperor."¹¹² The Indian Nāga is a Dryad too. In China the dragon assumes the shape of a tree growing under water. In Gaelic stories the dragon, tree and bird are connected. The Chinese dragon has affinities with the Polynesian sea-gods such as shark, eel, etc.

"In Polynesia the eternal conflict between the bird-god and serpent-god is illustrated in wood carvings. The Egyptian winged disk, as adopted by the islanders, shows the bird in the centre with the struggling snake in its beak. The Central American peoples had likewise this bird-and-serpent myth. In Mexico this winged disk was placed above the entrance to the temples."¹¹³ "The Aztecs of America" relates Ratzel¹¹⁴ "recounted how they saw *an eagle sitting on a Nopal bush (opuntia)* on an island in the lake of Chalco *strangling a snake* and how they took it for a sign that they were to found this city on the spot." Is it an echo of the Indian or Egyptian myth?

The serpent beliefs of the Polynesians are undoubtedly borrowed from others, the reptile being unknown to the islanders at first hand. They must have imported their ideas from their homeland. But where is that homeland? S. Percy Smith believes that the parent-stock of the Polynesians can be traced to India about 450 B.C., but this date is considered by Haddon to be problematical.¹¹⁵ Dr. Marett thinks them to be the mixture between long-headed immigrants from eastern India and round-headed Mongols from Indo-China and the rest of south-eastern Asia from whom the present Malayas are derived.¹¹⁶ Ratzel says, "We venture even to predict that in the religion of the most remote African and Australian peoples, just as in the rest of the culture possessed by them will be found germs or survivals of Indian or Egyptian tradition. The Indian elements in the Malaya religion belong now to the domain of proved facts and perhaps reach as far as Hawaii and beyond, even to America."¹¹⁷

110. *Myths of China and Japan*, p. 47.

111. Crooke—*An Introduction to the Popular Religion and Folklore of Northern India* (Allahabad Edition, 1894), p. 270, *et seq.*

112. *Myths of China and Japan*, p. 54.

113. *Ibid.*, p. 71.

114. *History of Mankind*, ii, 163.

115. *The Wanderings of Peoples*, p. 36.

116. *Anthropology*, p. 122.

117. Ratzel—*History of Mankind*, vol. i, p. 43.

The transmission of the idea to Central America is more difficult to determine. Haddon says, "Others again see evidence in certain cultural and linguistic affinities of Polynesian migrations into America, but the Polynesians do not appear to have reached Eastern Oceania till towards the close of the seventh century A.D."¹¹⁸ Indeed Ratzel is of opinion that "Hardly a single detail of Polynesian Mythology is absent in America, and the variations are comparatively trifling." Perhaps further research may reconcile this apparent conflict. Dr. Schliemann's theory of the existence of the "Lost Atlantis" in the Atlantic basin as the site of a drowned continent which bridged America and Europe has since been given up. The myth might otherwise have travelled over the "Lost Atlantis", say from Egypt.

In more recent times, however, India influenced the Eastern Islands in the Indian ocean and disseminated Indian culture far and wide. "From East Java", says Ratzel, "the seat of the true Javanese population which does not belie its Indian schooling, civilizing influences radiated, affecting profoundly not only intellectual activity but also agriculture and manufactures. Indian traces in Borneo, Sulu, Sumatra, the Philippines, most of all in the ruins of Bali point back both in speech and writing to the Indian kingdoms in Java . . . A great many races of the Indian Ocean have mastered the art of writing which has reached them from India"¹¹⁹ (e.g., the Rejang. Character).

No argument need be elaborated for proving that the bird and serpent myth prevalent in Tibet was imported from India along with the religion, though the demonolatry of Tibet has made it more complex than ever.

Central Asia which figures so largely in connection with the race-dispersals and nation movements, the home of so many nations, may perhaps be suggested as the home of this myth. A Central Asiatic source for Sumerian culture was advanced with much circumstantial detail. Sir Thomas Holdich, as has already been pointed out, considers that "the Dravidian peoples flocked down from the Asiatic highlands to the borderland of India." This may perhaps allude to Central Asia. * If not, the better. Dr. Barnett holds that the *proto-Dravidians* who came to India spoke a language having "Scythian" affinities.¹²⁰ The association of the Valley of Diamonds with serpents has already been seen. The Legend of the Diamond Valley, however, seems to be widespread. Laufer notes that a version of it occurs in *Liang se Kung Ki*. In the writings of Epiphanius, Bishop of Constantia, in Cyprus (c. 315—403), the valley is situated in "a desert of great Scythia" and the precious stones are gathered on the mountains whence the eagles carry them. Beliefs associated with eagle-stones as parturition stones are found in Egypt and

118. Haddon—*op. cit.*, p. 74.

119. Ratzel—*History of Mankind*, Vol. i, pp. 396, 401.

120. *C.H.L.*, p. 594.

India.¹²¹ In dealing with totemism connected with serpent worship Dr. Crooke observes that, like the ophiogeneis of Phrygia, the Cheros of the eastern districts of the N. W. Provinces and the Bais Rajputs of Oudh profess to be descended from the great serpent.....“ According to one theory they were the *Skythic emigrants from Central Asia*, but whether antecedent or subsequent to the Aryan inroad is disputed. They seem to have been accustomed to use the serpent as a national symbol, and hence came to be identified with the snake...another theory would make them Dasyus or aboriginal races of upper India.”¹²² In the *Geographical Dictionary of Ancient and Mediæval India* under *Rasātala* (S.V. in *I.A.*, May, 1924, p. 167) Mr. Nandolal Dey says “that the Suparṇas or Garuḍas or birds of the Mahābhārata lived in the Transcaspien district, and the Garuḍas were Sakas following the Zoroastrian religion. *Rasātala* is the valley of the Rasa or the Jaxartes. It derived its name from the river Rasa, on the banks of which the Huns and the Scythians (Sakas) resided. They were called Nāgas or serpents. The word *Nāga* is evidently a corruption of Hiungnu, the ancient name of the Huns, and according to some authority they believed that the serpent (*Nāga*) was the symbol of the earth (Ragozin's *Vedic India*, p. 308). Each name of the serpents of Pātāla, as mentioned in the *Mahābhārata* (Ādi, ch. 35) represents a tribe of Nāgas, as Śesha—the Sses of Sogdiana, Vāsuki—the Visivis, Tashakas—the Tocharis, etc. Some of Scythians were also Hunnic tribes. *Pātāla*, though a general name, is evidently derived from the Ephthalites, or the white Huns. They were called white in contradistinction to the black or sun-burnt Huns of the North (See Dr. Modi's *Early History of the Huns* in *J.B.B.R.A.S.*, Vol. XXIV). *Rasātala* was also the abode of the Dānavas or the Turanians.....The seven “spheres” or provinces of *Rasātala* derived their names from the different tribes of Huns and Scythians (Sakas) who dwelt there and belonged to the Turanian stock. (1) *Atala* from the Atelites, (2) *Bitala* from the Abtelites, (3) *Nitala* from the Neph-thalites, (4) *Talātala* from the Tocharis or Takshakas, (5) *Mahātala* from the Hitalites, (6) *Sutala* from the Ci-darites and (7) *Rasātala* is the Jaxartes.”

Now let me examine these theories. The theory of Central Asiatic source for Sumerian culture had a good plausibility in view of many interesting finds revealed in the course of recent scientific expeditions such as the Pumpelly Expedition, but no inscriptions nor solid evidences have been found to establish the connection.¹²³ Nothing definite has been stated regarding the locality whence Sir Thomas Holdich's “*Dravidian peoples*” and Dr. Barnett's

121. Quoting Laufer *The Diamond (A Study in Chinese and Hellenistic Folklore)*, 1915, *Myths of China and Japan*, pp. 128—9.

122. Crooke—*op. cit.*, pp. 262, 285.

123. *Myths of Babylonia*, pp. 5, 6.

"*proto-Dravidians*" emigrated. The Scythian element necessary to form the "Scytho-Dravidian" type has been ascribed by Mr. Rapson (*C.H.I.*, pp. 44, 45) to be belonging to the broad-headed Alpine race which inhabited the plateaus of Western Asia (Anatolia, Armenia and Iran)" but if we have to admit the Alpine connection, there is no necessity to go to Western Asia, for a glance at the map of Asia given in Haddon's *The Wanderings of Peoples* will at once show the Alpine race descending directly from the Hindukush to Western India. The strongly marked brachycephalic element in the population of Western India, believed by Risley to be the result of the Scythian invasions and denied by Dr. Haddon for want of sufficient evidence, is indicated by the latter to be Alpine, due to a migration the history of which has not been written.¹²⁴ The association of diamond with serpent (reminding us of a similar association in the *Arabian Night's Entertainments*) and the desert of great Scythia seems to be of a later date as the Bishop flourished c. 315—403 A.D. The invasion of the ancestors of the Cheros and Bais Rajputs—the *Skythic emigrants from Central Asia*—may either have been antecedent or subsequent to Aryan inroad. If antecedent it shares the fate of Risley's theory. If subsequent, it will be answered in my discussion of Mr. Nandolal Dey's theory. On a careful examination of Dr. Modi's article, *The Early History of the Huns* in the *J.B.B.R.A.S.* to which we are referred to by Mr. Dey, I find some confusion about names of tribes and dates in the theory of Mr. Dey.

Now Dr. Modi says that the Chinese emperor Cheng (246—210 B.C.) drove away the Huns in 215 B.C. and then built the great wall to prevent their inroads. "The Eastern Huns first attacked the U-sui tribes, who in their turn attacked the Yue-chi. These Yue-chi, being thus pushed by the Huns, turned towards the West and attacked the Su living on Lake Balkash. The Su tribe which was thus attacked, consisted of the different Turanian tribes, such as the Messagatæ, Tochari and Datae, who lived on the frontiers of Persia on the shores of the Upper Jaxartes.....The Su tribe, being attacked by the Huns, advanced to the Caspian from the Oxus. The Su tribes, who included the Dahal and the Messagatæ then attacked the Greco-Asiatic Kingdom of Bactria and the Asiatic state of Parthia. All this began to happen from about fifty years¹²⁵ after the erection of the Great Chinese wall. The Parthians opposed the above tribes. Therefore they turned back. The Scyths, Su and Yue-chi invaded India and made their settlements in the Punjab" (p. 548). Then again he says, "They (*i.e.*, the White Huns committing inroads into Persia) were known under different names such as Euthalites, Ephthalites, Haitalites, Nephthalites, Atelites, Abtelites, Cidarites."

124. Haddon—*The Wanderings of Peoples*, p. 27.

125. 165 B.C.

They fought with the Persians in the fifth and sixth century (420—557 A.D.) and invaded India about 455 A.D. (pp. 565, 579, 582). On p. 562 he says "But the Achæmenians had also to fight with the Huns. The Messagatæ against whom Cyrus fought, and the Sakas or Scythians against whom Darius fought were Hunnic tribes." These are all the data in *J.B.B.R.A.S.*, for Mr. Dey's theory. It will be evident that this is a patchwork without any regard to sequence of dates which have been lumped together. Of the serpents of Pātāla (Nāgas or Huns) Śesha is represented by the Sses of Sogdiana who are, however, Śakas or Scythians (*C.H.I.*, p. 566); Vāsuki is represented by the Usuivis, who, it appears, were a distinct tribe altogether and were at enmity with the very Huns (*J.B.B.R.A.S.*, p. 548), possibly they were Wusuns¹²⁶; the Takshakas are represented by the Tocharis who, according to Dr. Modi, are a sub-division of the *Su* tribe, *i.e.*, Mr. Dey's Śaka-Suparna tribe. and according to Strabo, a tribe distinct from the Sacæ (*C.H.I.*, p. 459); Aśvātara is represented by the Asii, seemingly a distinct tribe (*Ibid.*). This mingling up is explained by the statement that "some of the Scythians were also Hunnic tribes," but it appears that there were other tribes which were distinct from the "Hunnic" and "the Scythic". The *Ci-darites* were one of the names of the considerably later (5th—6th century A.D.) White Huns; but Mr. Dey takes them to be the *Su* tribes who about the year 165 B.C. attacked Bactria, to derive *Sutala*, a section of Pātāla from them. If Mr. Dey's identifications are accepted this would agree with the date of the Âdi Parva of *Mahābhārata* mentioning only the Nāgas of Pātāla to have been somewhere in the 5th—6th century A.D. But the Nāga worship amongst the Aryans was very old; indeed Ṛgvedi in his *History of Ancient and Modern Festivals of the Aryans*, says, "2500 years ago it was prevalent among the Aryans and that seven snake sacrifices were enjoined for warding off harm from snakes."¹²⁷ Viṣṇu reclining on a snake, the snake-necklace of Śiva, the snake-girdle of Gaṇapati, the snake-ingratiating songs of the Yajurveda, the Śāstric rites about snake worship, Ṛṣi's marriage with 'snake-maidens' and the Nāga's marriage of human wives, Vṛtra the dragon-victim of Indra, Takshaka, Vāsuki—snake-kings—all point to the Non-Aryan cult being admitted into Brahmanism instancing "a compromise between a higher religion and animal worship, and possibly totemism".¹²⁸ Ragozin says that a Dravidian king of a Nāga tribe named King Vāsuki recalling the great serpent Vāsuki of myth ruled at Pātāla, modern Hyderabad, in Sindh.¹²⁹ It is well known that the Dravidians pervaded the whole of Northern India. Dravidian languages

126. *C.H.I.*, pp. 565, 566; Haddon—*op. cit.*, pp. 16, 28, 29.

127. *I.A.*, Vol. LIII, p. 91.

128. *Ibid.*, p. 92.

129. Ragozin.—*Rigvedic India*, p. 308.

flourishing in the western regions of Northern India profoundly affected the Indo-European languages introduced by the Aryans. "Dravidian characteristics have been traced alike in Vedic and classical Sanskrit, in the Prakrits or early popular dialects and in the modern Vernaculars derived from them. The "presence of the second series of dental letters, the so-called cerebrals" in the language of the Rigveda, and their absence from any other Indo-European language is ascribed to Dravidian influence.¹³⁰ Dr. Bhandarkar traces *maṭāchī*, to a Dravidian word meaning 'locust,' occurring in the Chhandogya Upanishad (1. 10. 1).¹³¹ Professor Hopkins says that it is possible that the Pañchālas represent five Nāga clans (with *ala*, a water-snake cf. Eng. *eel*) connected with the Kurus or Krivis (meaning 'serpent' or 'Nāgas'), and that none of the families is of pure Aryan blood, for the Nāgas in the epic are closely related to the Paṇḍus, but all such considerations at present rest on speculation rather than on fact."¹³² The warlike Nāga race were not unknown to the Tamil writers.¹³³ Even in later times, as Professor S. Krishnaswami Aiyangar holds the Śūtas of Banavāse and the Sātakarnis were known as Nāgas.¹³⁴ Arjun's marriage with Ulūpi has already been mentioned. All this suggests a fusion of the Aryans with the Dravidians to some extent at least. Then again we read in the Mahābhārata that Parīkshita was stung by the serpent King Takshaka. Dr. H. C. Raychaudhuri has tried to show that the date of Parīkshita may be placed in the ninth century B.C. as an alternative to the Purāṇic date, viz., fourteenth century B.C.¹³⁵ Mr. N. L. Dey's theory, therefore, falls to the ground.

The serpent worship of Crete may have been due to Babylonian civilization owing to the conquests of the two Sargons or to the earlier migration of the cult thence to Crete in pre-historic times.

I have thus brought together the myths of various countries. viz., India, Babylonia, Crete, Egypt, Germany, Scandinavia, Scotland and Britain, and Arabia, China, Japan, Polynesia, Central America and Mexico. And at some point or another there is contact between some or all of these. Of course "owing to the essential uniformity of human thought," as Haddon says, "simple motives can originate independently."¹³⁶ But he also acknowledges that there is no doubt folktales pass from one people to another. When complex tales occur, however, in different countries there is a *prima facie* case of borrowing. Further, folktales dealing with mythology often reflect

130. *C.H.I.*, pp. 41, 42, 49. See also the *Introduction to Pāli Prakāśa* (Bengali ed., 1318 B.S.) by Pundit Vidhusékhara Sāstri, p. 36.

131. *Carmichael Lectures*, (1918), pp. 26, *et seq.*, first series.

132. *C.H.I.*, p. 254.

133. *C.H.I.*, pp. 595, 596.

134. *I.A.*, Vol. LIII, p. 27.

135. *Calcutta Review*, (October, 1924), p. 73.

136. Haddon—*op. cit.*, p. 10.

earlier conditions in a different geographical environment. I claim that the bird and serpent myth common to so many countries is a cultural drift disseminated from India in historic or pre-historic times, by land or sea, directly or indirectly, along the track of conquerors in their career or the routes of merchants and traders, by the path of adventurous colonizers or prospectors and settlers.

There is, however, another theory. Dr. Frazer contends that "homogeneity of beliefs" may have been due to "homogeneity of race". Following this clue some distinguished ethnologists favour the theory of a racial kinship between the Neolithic Europeans, the Proto-Egyptians, the Sumerians, the Southern Persians and the Aryo-Indians. Professor Elliot Smith regards the Sumerians to be the congeners of the Pre-dynastic Egyptians of the Mediterranean or Brown race, the eastern branch of which reaches to India and the western to the British Isles and Ireland. In the same ancient family are included the Arabs . . . Cranial evidence points strongly to their distribution between Egypt and the Punjab. The Pelasgians, Iberians and Cretans belonged to the same race.¹³⁷ The Mediterranean race according to Sergi was widely distributed throughout Syria and a part of Asia Minor. Professor Risley sees in the dark dolicho-cephalic Persians, especially the Lori, a strong Mediterranean strain.¹³⁸ Various branches of the Mediterranean race first spread over southern and western Europe and the British Islands as Neo-lithic man (*Ibid.*, p. 40). According to Stuhlmann the Proto-Hamites spreading in pre-historic times all over North Africa were in the east the archaic Egyptians, in the west the Libyans (and their descendants the Berbers); those who crossed the Mediterranean were the European branches of the Mediterranean race. Stuhlmann assumes that Neolithic man in Europe was an immigrant from Africa at the end of Palæolithic period and did not develop *in situ* from Palæolithic man. He thus supports in the main the well-known views of Sergi and Keane and Elliot Smith gives corroborative evidence that the area of characterization of this stock was in northern Africa. Angelo Mosso writes: "The vases found at Amerejo in Spain have the characteristic form of Egyptian vases of the close of the Neolithic age. The resemblance of the Egyptian idols with those of Crete and the continent is an established fact; the burial rites are similar, the flat copper axes of Egypt cannot be distinguished from those of the Continent . . . —all these data give good reason to suppose that the pre-Dynastic Egyptians had relations with the West . . ." ¹³⁹ It is maintained then that this Mediterranean or Brown race had their area of characterization in North Africa, according to some, in

137. *Ancient Egyptians*, quoted in *Myths of Babylonia*, pp. 7, 9.

138. Haddon—*op. cit.*, p. 26.

139. *The Dawn of Mediterranean Civilisation*, p. 62.

Somaliland or Punt. "Periodic folk waves drifting westward and east, entered Europe across the Straits of Gibraltar and through Palestine and Asia Minor by the coast line route. In the process of time they overspread southern, central and western Europe and entered the British Isles. Probably they crossed over to Ireland from Scotland."¹⁴⁰ If Mr. Foote's query "Might they (the Dravidian Races) not possibly be representatives of the brown race described by Professor Elliot Smith?"¹⁴¹ be answered in the affirmative the range would considerably widen.

The old hiatus theory separating the Neolithic folks from the Palaeolithic has now been abandoned by most archæologists. According to Dr. Robert Munro in Europe "there was no break in the continuity of human occupation from late Palæolithic to Neolithic times". It may be imagined, therefore, that the Neolithic Mediterranean race had contact with the remnants of the Palæolithic races in various parts of Europe. Steatopygous figures have been found in Neolithic Maltese graves and in Cretan Neolithic strata. Now in Palæolithic times the Cro Magnon races worshipped the mother-goddess, and in the Aurignacian caves steatopygous figures have been found. This has been regarded as an indication of the contact of these Aurignacian proto-Bushmen with the early settlers of the Mediterranean race. The Palæolithic people were worshippers of the mother-goddess. As however there was no hiatus in Egypt between the Palæolithic and Neolithic folks the steatopygous figures found in pre-Dynastic Egyptian and Nubian graves may be ascribed to the Palæolithic cave dwellers in Egypt. It may be imagined, therefore, that the fusion of the goddess-worshipping people, the remnants of the Palæolithic folks of post-glacial times, with the earliest settlers of the Mediterranean race gave origin to or strengthened the Goddess-cult. For the Neolithic people were also goddess-worshippers. The Aurignacian mother-goddess may therefore be the prototype of the Cretan goddess. And the Cretans according to Plutarch spoke of their country as the mother-land and not their father-land. Now the Lycians "who are in good truth" anciently from Crete, were, as Herodotus tells us, called Termilæ or Trm-mili. If, as has already been suggested, these Termilæ be the ancestors of, or be connected with the Dramila, Tamils of Southern India, the suggestion seems to be strengthened by the note of Herodotus that the Lycians took "the mother's and not the father's name."¹⁴² The mother-goddess, in the form of the snake-goddess, and the earth-goddess, has to be propitiated alike in Aurignacian, Neolithic and modern times by magic ritual and human sacrifices—as Kāli, Demeter, Neith Ge or Gaia, Black Annis, Cailleach. The similarity in the

140. *Crete and Pro-Hellenic Europe*, p. 58.

141. *Prehistoric and Protohistoric Antiquities* (Madras : 1916), p. 184.

142. *Herodotus*, 1, 173, quoted in *Crete*, p. 319.

burial customs characteristic of some Palæolithic tribes in Western Europe, the Cretans, the Pre-Dynastic Egyptians, and the Dravidians is significant. D. A. Mackenzie says, "It will be seen that the idea of the mother-goddess prevailed in ancient times from India to Ireland and throughout Egypt. Although she was closely associated with the Mediterranean or Brown Race, which included the Neolithic Europeans, the proto-Egyptian, the Sumerians, Southern Persians and Aryo-Indians, she was also a conspicuous figure in the late Palæolithic period."¹⁴³

It has been suggested that the fact of secretary birds in Africa hunting the serpents might be the origin of the myth. "Early Egyptian sea-farers were no doubt greatly impressed when in the "land of Punt", they saw there strange birds, with heads like eagles or hawks, standing over snakes they had clutched in their talons and then flying away with them dangling from their beaks.....This crept into the mythology of Egypt with the result that the Horus hawk became the hunter of Set in his "hissing serpent" form. But the Horus Set myth in its bird and serpent variation was possibly later, viz., when the Egyptian vessels visited the land of Punt. Then it might have spread far and wide. I have already pointed out, however, while dealing with the *Supparaka Jataka*, that the Indians saw, among other countries, Somaliland and Nubia in about the fifteenth century B.C. They could not have overlooked the spectacle of the secretary bird killing the serpent. Should it, therefore, be regarded as the prototype of the Nāga-Suparna hostility in the Mahābhārata? I should think not. It does not need the accident of the secretary bird hunting the serpent to formulate the myth in India. Even in modern times we have noted birds of the hawk type, even kites, flying with serpents in their talons which they perhaps preyed on. I cannot say whether the serpents were poisonous or not. The myth might in all probability have originated in India. A single isolated natural phenomenon should not be put down as sufficient evidence for transmission, but the several associated ideas, which make the myth a complex one and which are reproduced with variations in local colouring in widely separated areas make for the hypothesis of diffusion.

It seems, therefore, from what has been stated above that there has been an attempt to prove that a belief common to the peoples of India, Babylonia, Egypt, Crete, Iberia, Germany, Scandinavia, Britain and Ireland has to be ascribed to their common inheritance from their ancestral representatives, the Neolithic stock—the Brown or the Mediterranean race—who had the Egyptian Punt or Northern Africa as their area of characterization—the variations of the common idea being later developments due to the geography of the

143. *Myths of Crete*, p. 70.

various settlements. And the idea of the Neolithic folk may have been permeated by the survival of a similar Palæolithic idea.

This theory seems really to rival the Indian theory put forward by me. I have indeed no quarrel with those who advocate a 'homogeneity of race, homogeneity of belief' theory. Those who deal with myths are all in the same plight, *i.e.*, to the historians they are no better than the knights of the poet who following the *Holy Grail* were stuck in the quagmire. For they say, from the 'arid wastes' of mythology—(myths and legends and all the kindred brood)—can only crop up 'Mirages of History'!

I have presented a theory which seems to me to be very probable.

A BRIEF TRANSLATION OF MAHAVIRA'S "SURYAPRAGNAPTI" OR "THE KNOWLEDGE OF THE SUN".

BY DR. R. SHAMA SASTRY.

The Increase and Decrease in the Area of Day and Night.

WE divide the diurnal circle into 1830 equal parts. The reason why we divide it into so many parts is this:—Now each complete diurnal circle is illuminated by two suns in a day or by one sun in two days or sixty muhurtas. Hence we divided the circle into sixty divisions first. Now the two suns together advance on each outer circle from the first innermost circle by lessening the day time together by $\frac{2}{61}$ of a muhurta or $\frac{1}{30}$ of a muhurta each; i.e., the area of diurnal circle will be lessened by $30\frac{1}{2}$ parts of $\frac{1}{60}$ th division. In other words, they lessen each division of $\frac{61 \times 60}{2} = 1830$ divisions, and increase one division of 1830 divisions in the area of the night. Hence on the 183rd circle on the 183rd day they lessen 183 of 1830 divisions or $\frac{1}{10}$ th of the whole circle.

Śrāvaṇa Bahula pratipat is the Yugādi (New Year's Day). Then one sun is in the south-eastern quarter, and the other in the north. Likewise one moon is in the south-western quarter and another in the north-eastern quarter.

The length of days and nights in both the sides of the Meru is similar; likewise the seasons. When it rains in the south, it also rains in the north.

When the sun rises, the shadows caused by him are longer and as he rises up high, they become less long and begin to get longer and longer as day declines.

Some say that there is a day when shadow is cast measuring four Purushas in the morning and likewise in the evening. Here the word Purusha means anything that casts the shadow. Hence four Purushas mean four times the height of the thing casting shadow. They say that there is also a day when in the morning and in the evening shadow equal to a Purusha is cast.

Others say that there is a day when shadow is cast, equal to a Purusha both in the morning and in the evening; and likewise a day when both in the morning and in the evening no shadow is cast.

As regards the first it must be said that on the day when it is eighteen muhurtas and the night twelve muhurtas, the shadow cast by a thing either

in the morning or in the evening is four Purushas when the sun is on the outermost diurnal circle, and when the night is eighteen muhurtas and the day is twelve muhurtas, then the shadow is two Purushas. There are, however, as many as ninety-six different views regarding the length of shadow in different localities. Some say that there is a day when shadow cast in the morning or in the evening is one Purusha or two Purushas; and so on. They can better be guessed than described. Mahāvīra's own view is this:—Both in the morning and in the evening the sun causes shadows equal to a little more than fifty-nine Purushas. When three parts of the day have elapsed or remain to be passed then the shadow is half Purusha; when four parts are passed or remain to be passed, then the shadow is one Purusha. When the fifth part is passed or is to pass then the shadow is $1\frac{1}{2}$ Purusha.

Constellations.

The Nakshatras begin with Krittika and end with Bharani according to some and others follow a different order. Our order is beginning with Abhijit.

(1) There is a constellation which unites with the moon for $9\frac{2}{3}\frac{7}{7}$ muhurtas.

(2) There are constellations which unite with the moon for fifteen muhurtas.

(3) There are constellations which unite with the moon for thirty muhurtas.

(4) There are constellations which unite with the moon for forty-five muhurtas.

1. Abhijit remains with the moon for $9\frac{2}{3}\frac{7}{7}$ muhurtas.

The reason for this is as follows:—The sīma-vishkambha or the diameter of the Abhijit circle is 630 in terms of muhurta. This when divided by sixty-seven nakshatra month periods of a Yuga is equal to $\frac{630}{67} = 9\frac{2}{3}\frac{7}{7}$. Accordingly it is stated that the Abhijit remains with the moon $\frac{2}{3}\frac{1}{7}$ parts of a day. This in terms of muhurtas is equal to $\frac{2}{3}\frac{1}{7} \times \frac{30}{1} = 9\frac{2}{3}\frac{7}{7}$.

2. Śatabhishak, Bharani, Ārdra, Āślēsha, Svāti, Jyēshtha remain with the moon for fifteen muhurtas. For each of these six remains with the moon $\frac{33\frac{1}{2}}{67}$ parts of a day $= \frac{67}{2} \times \frac{30}{67} =$ fifteen muhurtas.

3. Śravana and other fifteen stars unite with the moon for thirty muhurtas; for their area is 2010 muhurtas. This when divided by $67 = 30$.

4. Uttarābhādra and other six stars combine with the moon 3015 muhurtas.

This divided by $67 = \frac{3015}{67} =$ forty-five muhurta periods.

The Nakshatras and the Sun.

(1) There is a constellation which lasts in union with the sun for four days and six muhurtas.

(2) There are constellations which remain in union with the sun for six days and twenty-one muhurtas.

(3) There are others which unite with the sun for thirteen days and twelve muhurtas.

(4) And there are also some which remain with the sun for twenty days and three muhurtas.

1. It is the Abhijit which unites with the sun for four days and six muhurtas.

The ancient rule regulating the combination of the constellations with the sun is as follows:—

“Jam rikham Javayiye Vajjayi Chandenabhaga Sattatthi tam paṇabage rāyindivassa sūrena tavayiye.”

“That constellation which unites with the moon for how many sixty-seventh divisions of a whole day, the same constellation unites with the sun for one-fifth of so many days and nights.” For example, the Abhijit combines with the moon for twenty-one times of one-sixty-seventh divisions of a whole day. Now one-fifth of twenty-one is equal to four days and six muhurtas.

Hence it is said that Abhijit remains with the sun for four days and six muhurtas.

2. Those constellations which combine with the sun for six days and twenty-one muhurtas are six. For each of them remains with the moon for $\frac{33\frac{1}{2}}{67}$ parts of a day and night. Hence one-fifth of $33\frac{1}{2} = \frac{67}{2} \div 5 =$ six days and twenty-one muhurtas. These are Śatabhishak, Bharāṇi, Ārdra, Āślēsha, Svāti and Jyēshṭha.

3. Again those which combine with the moon for complete sixty-seven parts combine with the sun for one-fifth of sixty-seven parts, i.e., thirteen days and twelve muhurtas.

4. Uttarābhādrapada and other remaining stars unite with the moon for $\frac{100}{87} + \frac{1}{67 \times 2}$ parts of a whole day. Hence these combine with the sun for $\frac{100}{5} + \frac{1}{2 \times 5} =$ twenty days and $\frac{1}{10}$ = three muhurtas.

The constellations may be classed into four groups in respect of the duration of their union with the moon.

(1) Those which unite with the moon for thirty muhurtas are constellations of whole or even union area (Samakshetra) and of earlier commencement.

(2) Those which unite with the moon for thirty muhurtas but begin their union during the later part of the day and have yet whole or even union area.

(3) Those which unite with the moon for fifteen muhurtas, having half of union area.

(4) Those which unite with the moon for a whole day and a half, *i.e.*, forty-five muhurtas having one and a half union area.

1. Those of the first class are six, Pūrvābhādra, etc.
2. Those of the second class are ten, Abhijit, etc.
3. Those of the third class are six, Śatabhishak, etc.
4. Those of the fourth class are six, Uttarābhādra, etc.

The two constellations, Abhijit and Śravaṇa, are of later union and of whole union area. Of these two Abhijit is of neither whole union area, nor of half union area, nor even of one and half union area. Still, as it is connected with Śravaṇa, it is said to be of whole union area. The area occupied by them together is a little more than thirty-nine muhurtas; nine muhurtas for Abhijit and thirty muhurtas for Śravaṇa. It is in the twilight that they come in contact with the moon. At the beginning of the Yuga, cycle of five years, the Abhijit comes into contact with the moon in the morning. Still, connected as it is with Śravaṇa, it is said to form union with the moon in the evening. All that is meant is that in the evening on the first day of the Yuga they unite with the moon and remain so for a little more than the whole of the next half a day (fifteen muhurtas). Then they leave the moon for union with the Dhanishṭha. The last also unites with the moon in the evening and remains so for thirty muhurtas.

Then Śatabhishak comes in contact for fifteen muhurtas beginning in the evening.

Then two Bhādrapadas. The first of these comes into contact with the moon in the morning and remains so for thirty muhurtas. The Uttarābhādra comes also in contact with the moon in the morning and remains for the whole day and night and sends the moon at twilight to unite with the Revati. The two Bhādrapadas are, however, said to have one and a half of union area each.

Revati is of samakshetra and lasts for thirty muhurtas with the moon.

Aśvini is of later union for thirty muhurtas, one night and day.

Bharani is also of later union and of half union area lasting for fifteen muhurtas.

Kṛittika unites in the morning, *i.e.*, of earlier union and remains whole night and whole day and more and hence it is of one and a half of union area.

Rōhiṇi is also of one and a half of union area.

Mṛigaśira is of union for thirty muhurtas, beginning in the evening.

Ārdra is like Śatabhishak of fifteen muhurtas.

Punarvasu is of one and a half of union area like Uttarābhādra,

Pushya like Dhanishṭha unites in the evening and remains so for thirty muhurtas.

Āślēsha like Śatabhishak remains in union for thirty muhurtas.

Magha is of earlier union and remains for thirty muhurtas.

Pūrva-phalguni like Pūrvābhādra remains in union for thirty muhurtas.

Uttara-phalguni is of one and a half of union area like Uttarābhādrapada.

Hasta comes in union in the evening and remains so for thirty muhurtas.

Chitra comes in union a little later in the evening and lasts for thirty muhurtas.

Svāti is of half union area and lasts for fifteen muhurtas.

Viśākha is of one and a half of union area.

Anūrādhā is like Dhanishṭha of even area for thirty muhurtas.

Jyeshṭha is like Śatabhishak of half area for fifteen muhurtas.

Mūla like Pūrvābhādrapada has even area for thirty muhurtas.

Pūrvāshāḍha comes in contact in the morning and remains so for thirty muhurtas.

Uttarāshāḍha like Uttarābhādrapada is of one and a half of union area.

Thus some are of earlier union, some of later union, some of union only at night and some of union for a day and night.

The Nakshatras are again divided into kulas (houses), upakulas (apparent houses), and kulōpakulas (petty apparent houses). There are twelve kula constellations, twelve upakulas and four kulōpakulas. Those like Śravishṭha, Bhādrapada, Āśvini, etc., which complete a lunar month are kulas; those which nearly complete the month are upakulas; and those, like Abhijit, Pūrvābhādra, Śatabhishak and Anūrādhā, which are far removed from the moon at the close of corresponding months are kulōpakulas.

The names of months terminating with full moons (and also new moons) in particular constellations are derived from corresponding constellations. There are twelve full moons and twelve new moons, as Śravishṭhi, Praushṭhapadi, etc. Śravishṭhi is that which takes place in Śrāvaṇa month and Praushṭhapadi is that which takes place in Bhādrapada month. Likewise Āśvayujī is that which occurs in the month called Āśvayuk. It is to be noted that as many as three constellations may alternately unite with the moon to make a full or new moon; for example, Abhijit, Śrāvaṇa, Dhanishṭha may come in contact with the moon to make the full moon of Śravishṭhi month. Abhijit, however, does not at all combine with the moon; still, because it is so near the Śrāvaṇa star, it is also considered as making that particular full or new moon.

Constellations and Full Moons or New Moons.

To determine the constellation in which a particular new moon takes place, it is necessary to ascertain the Parva constant (Parva dhruvarāśi).

This is done as follows :—

In the course of 124 Parvas the sun performs five sidereal circuits. How many circuits does he perform in two Parvas?

In 124 Parvas he makes five circuits.

∴ in two..... $\frac{5 \times 2}{124}$ circuits = $\frac{5 \times 2}{124} \times 1830$ day circuits,
 $= \frac{9150}{62} = \frac{9150}{62} \times 30 = \frac{274500}{62}$ muhurta circuits,
 $= \frac{2745000}{62 \times 67} \text{ sidereal muhurta circuits} = 66 \frac{386}{62 \times 67} = 66 \text{ muhurtas, } 5$
 sixty-secondths of a muhurta and $\frac{1}{67}$ of sixty-secondth of a muhurta.

This is Parva constant, as stated in the text.

This constant is to be multiplied by the number of the Parva under question. Then a nakshatra correction is also to be made before finding the particular Parva in a particular constellation. The corrections vary with each nakshatra. They are as follows :—

For Punarvasu it is 22 muhurtas and $\frac{46}{62}$ of a muhurta.

For constellations from Punarvasu to Uttara-phalguni it is 172 muhurtas + $\frac{46}{62}$ of a muhurta.

For constellations from Uttara-phalguni to Viśākha it is 292 muhurtas + $\frac{46}{62}$ of a muhurta.

For constellations from Viśākha to Uttarāshāḍha it is 442 muhurtas + $\frac{46}{62}$ of a muhurta.

The correction is thus obtained :—

If in 124 Parvas sun's five sidereal circuits are completed, how many will they be in one Parva after one Parva?

i.e., 124 Parvas contain 5 sidereal circuits.

1 Parva contains $\frac{5}{124} = \frac{5}{124} \times 1830$ day circuits,
 $= \frac{9150}{124} = \frac{4575}{62}$ day circuits,
 $= \frac{4575}{62 \times 67} = \frac{4575}{4154}$ day sidereal circuits.

Now $\frac{23}{67}$ of a muhurta parts of Pushya unite with the sun in the final Parva of the previous Yuga. This is to be multiplied and divided by 62 and deducted from the above (i) $\frac{23}{67} \times 62 = \frac{1426}{67 \times 62}$.

Hence $\frac{4575}{62 \times 67} - \frac{1426}{62 \times 67} = \frac{3149}{62 \times 67}$ day sidereal circuits = $\frac{3149}{62 \times 67} \times 30 = \frac{94470}{62 \times 67}$ muhurta sidereal circuits = 22 muhurtas and $\frac{46}{62}$ of a muhurta.

This is the correction for Punarvasu constellation.

These corrections are from Punarvasu to the end of Uttarāshāḍha. The second correction is as follows :—

Then for Abhijit it is 9 muhurtas and $\frac{2}{6}\frac{4}{2}$ of a muhurta and $\frac{6}{6}\frac{6}{7}$ of 62nd of a muhurta.

For Prōshthapada 159 muhurtas.

For Uttarābhādra 159 muhurtas.

Then for stars up to the end of Rōhiṇi 309 muhurtas.

Then for stars up to the end of Punarvasu 399 muhurtas.

Then for stars up to the end of Uttara-phalguni 519 muhurtas.

Then for stars up to the end of Viśākha 669 muhurtas.

Then for stars up to the end of Mūla 744 muhurtas.

Then for stars up to the end of Uttarāshāḍha 819 muhurtas.

In all these $\frac{2}{6}\frac{4}{2}$ of a muhurta and $\frac{6}{6}\frac{6}{7}$ of 62nd part of a muhurta is also to be included.

Thus the constant multiplied by the number of the new moon in question *minus* the two corrections will give the particular constellation from Abhijit, in which the new moon happens.

Likewise to ascertain the constellation making a full moon, the same constant is to be multiplied by the number of the full moon and the correction from Abhijit to the end of Uttarāshāḍha should be applied but not the correction from Punarvasu and onward (*i.e.*, the first correction).

Examples :—

In what Nakshatra does the first full moon Śravishthi get completion ?

Now the constant is $66 + \frac{5}{6}\frac{2}{2} + \frac{1}{6}\frac{7}{7}$

$(66 + \frac{5}{6}\frac{2}{2} + \frac{1}{6}\frac{7}{7}) \times 1 - (9 + \frac{2}{6}\frac{4}{2} + \frac{6}{6}\frac{6}{7}) = 56 + \frac{4}{6}\frac{2}{2} + \frac{2}{6}\frac{7}{7}$ for Abhijit.

Then this *minus* 30 for Śravaṇa = $26 + \frac{4}{6}\frac{2}{2} + \frac{2}{6}\frac{7}{7}$.

This when deducted from 30 muhurtas of Dhanishṭha

$\{ 30 - (26 + \frac{4}{6}\frac{2}{2} + \frac{2}{6}\frac{7}{7}) \}$ will give 3 muhurtas + $\frac{1}{6}\frac{9}{2} + \frac{6}{6}\frac{5}{7}$, *i.e.*,

when 3 muhurtas, $\frac{1}{6}\frac{9}{2}$ of a muhurta and $\frac{6}{6}\frac{5}{7}$ of 62nd part of a muhurta remain in Śravaṇa, then the full moon happens.

Now if the question is where does the second Śravishthi full moon get completion ?

The answer is as follows:—

$(66 + \frac{5}{6}\frac{2}{2} + \frac{1}{6}\frac{7}{7}) \times 13$. (We multiply the constant by 13 since the second full moon is the thirteenth from the first) = $858 + \frac{6}{6}\frac{5}{2} + \frac{1}{6}\frac{9}{7}$.

Now deduct from this $819 + \frac{2}{6}\frac{4}{2} + \frac{6}{6}\frac{6}{7}$ which is equal to one sidereal circuit.

Hence the remainder is $39 + \frac{4}{6}\frac{0}{2} + \frac{1}{6}\frac{4}{7}$.

Deduct the correction for Abhijit from this.

$39 + \frac{4}{6}\frac{0}{2} + \frac{1}{6}\frac{4}{7} - (9 + \frac{2}{6}\frac{4}{2} + \frac{6}{6}\frac{6}{7}) = 30 + \frac{1}{6}\frac{5}{2} + \frac{1}{6}\frac{5}{7}$.

From this deduct 30 muhurtas of Śravaṇa.

Then when 29 muhurtas and $\frac{4}{6}\frac{1}{2} + \frac{5}{6}\frac{2}{7}$ of a muhurta remain in Dhanishṭha, the second full moon is completed.

Likewise for the third Śravishṭhi full moon.

It is the twenty-fifth full moon. Hence multiply the constant by 25.

$$(66 + \frac{5}{6}\frac{5}{2} + \frac{1}{6}\frac{7}{7}) \times 25 = 1650 + \frac{1}{6}\frac{2}{2}\frac{5}{5} + \frac{2}{6}\frac{5}{7}.$$

Deduct from this $1638 + \frac{4}{6}\frac{8}{2} + \frac{1}{6}\frac{3}{2}\frac{2}{7}$ being two sidereal rounds. Then the remainder is $12 + \frac{7}{6}\frac{5}{2} + \frac{2}{6}\frac{7}{7}$.

Then apply Abhijit correction; we have

$$(12 + \frac{7}{6}\frac{5}{2} + \frac{2}{6}\frac{7}{7}) - (9 + \frac{2}{6}\frac{4}{2} + \frac{6}{6}\frac{6}{7}) = 3 + \frac{5}{6}\frac{0}{2} + \frac{2}{6}\frac{8}{7},$$

i.e., when 26 muhurtas and $\frac{1}{6}\frac{1}{2} + \frac{3}{6}\frac{9}{7}$ of a muhurta remain in Śravaṇa the third full moon is completed.

Likewise the 4th full moon happens when $16 + \frac{8}{6}\frac{3}{2} + \frac{2}{6}\frac{5}{7}$ remain in Dhanishṭha.

Thus Śravishṭhi full moon happens either in Śravaṇa or in Dhanishṭha.

Likewise Bhādrapadi full moon happens in Śatabhishak, Prōshṭhapada, or in Uttarāprōshṭhapada.

The first full moon happens when $27 + \frac{1}{6}\frac{4}{2} + \frac{6}{6}\frac{4}{7}$ remain in Uttarābhādrapada.

The second when $8 + \frac{4}{6}\frac{1}{2} + \frac{5}{6}\frac{1}{7}$ remain in Pūrvābhādrapada.

The third when $5 + \frac{6}{6}\frac{2}{2} + \frac{2}{6}\frac{8}{7}$ remain in Śatabhishak.

The fourth full moon when $40 + \frac{4}{6}\frac{1}{2} + \frac{2}{6}\frac{4}{7}$ remain in Uttarābhādrapada.

The fifth when $21 + \frac{5}{6}\frac{5}{2} + \frac{1}{6}\frac{1}{7}$ remain in Pūrvābhādrapada.

Likewise the Āśvayuji full moon happens either in Revati or in Āśvini. Sometimes Uttarābhādrapada nakshatra too makes this full moon. Still it is usual for people to consider Uttarābhādrapada with Praushṭhapadi full moon.

The first Āśvayuji full moon happens when $21 + \frac{6}{6}\frac{3}{2}$ remain in Āśvini.

The second when $17 + \frac{3}{6}\frac{6}{2} + \frac{5}{6}\frac{0}{7}$ remain in Revati.

The third when $14 + \frac{1}{6}\frac{1}{2} + \frac{3}{6}\frac{7}{7}$ remain in Uttarābhādrapada.

The fourth when $4 + \frac{3}{6}\frac{8}{2} + \frac{2}{6}\frac{3}{7}$ remain in Revati.

The fifth when $\frac{5}{6}\frac{0}{2} + \frac{1}{6}\frac{0}{7}$ remain in Uttarābhādrapada.

The Kārtiki full moon may happen in Bharanī, Kṛittika, and sometimes in Āśvini.

Prominence is however given to Kṛittika.

The first happens when $\frac{4}{6}\frac{1}{2} + \frac{6}{6}\frac{2}{7}$ of a muhurta remain in Kṛittika.

The second when 26 muhurtas and $\frac{8}{6}\frac{1}{2} + \frac{4}{6}\frac{9}{7}$ of a muhurta remain in Kṛittika.

The third when 7 muhurtas and $\frac{5}{6}\frac{8}{2} + \frac{8}{6}\frac{6}{7}$ of a muhurta remain in Āśvini,

The fourth when $16 + \frac{5}{8} \frac{8}{2} + \frac{2}{6} \frac{2}{7}$ remain in Kṛittika.

The fifth when $9 + \frac{5}{8} \frac{4}{2} + \frac{9}{6} \frac{7}{7}$ remain in Bharāṇi.

Then Mārgasīra full moon may happen in Rohiṇi, or Mṛigaśīras.

The first when $8 + \frac{6}{8} \frac{1}{7}$ remain in Mṛiga.

The second when $5 + \frac{2}{8} \frac{6}{2} + \frac{4}{6} \frac{8}{7}$ „ in Rohiṇi.

The third when $21 + \frac{5}{8} \frac{3}{2} + \frac{4}{6} \frac{5}{7}$ „ in Rohiṇi.

The fourth when $22 + \frac{1}{8} \frac{3}{2} + \frac{2}{6} \frac{1}{7}$ „ in Mṛigaśīras.

The fifth when $18 + \frac{4}{8} \frac{0}{2} + \frac{8}{6} \frac{7}{7}$ „ in Rohiṇi.

Then Paushi full moon may happen in Ārdra or Punarvasu or Pushya.

The first when $2 + \frac{5}{8} \frac{6}{2} + \frac{6}{6} \frac{0}{7}$ in Punarvasu.

The second when $29 + \frac{2}{8} \frac{1}{2} + \frac{4}{6} \frac{7}{7}$ in Punarvasu.

The third when (before Adhikamāsa, intercalary month), $10 + \frac{4}{8} \frac{8}{2} + \frac{8}{6} \frac{8}{7}$ remain in Ārdra.

The ^{fourth}_{third} Intercalary when $19 + \frac{4}{8} \frac{3}{2} + \frac{3}{6} \frac{8}{7}$ in Pushya.

The fourth when $16 + \frac{8}{8} \frac{2}{2} + \frac{2}{6} \frac{0}{7}$ in Punarvasu.

The fifth when $42 + \frac{8}{8} \frac{5}{2} + \frac{7}{6} \frac{7}{7}$ in Punarvasu.

Then Maghi full moon may occur in Āślēsha, Magha, or sometime Pūrva-phalguni.

The first when $11 + \frac{5}{8} \frac{1}{2} + \frac{8}{6} \frac{9}{7}$ remain in Magha.

The second when $8 + \frac{1}{8} \frac{6}{2} + \frac{4}{6} \frac{6}{7}$ „ in Āślēsha.

The third when $28 + \frac{8}{8} \frac{8}{2} + \frac{8}{6} \frac{2}{7}$ „ in Pūrva-phalguni.

The fourth when $25 + \frac{3}{8} \frac{2}{2} + \frac{1}{6} \frac{9}{7}$ „ in Magha.

The fifth when $6 + \frac{8}{8} \frac{0}{2} + \frac{6}{6} \frac{7}{7}$ „ in Pushya.

Then Phalguni full moon occurs in Pūrva-phalguni, or Uttara-phalguni

The first when $20 + \frac{4}{8} \frac{6}{2} + \frac{5}{6} \frac{3}{7}$ remain in Uttara.

The second when $2 + \frac{1}{8} \frac{1}{2} + \frac{5}{6} \frac{4}{7}$ „ in Pūrva-phalguni.

The third when $7 + \frac{3}{8} \frac{8}{2} + \frac{3}{6} \frac{1}{7}$ „ in Uttara-phalguni.

The fourth when $33 + \frac{8}{8} \frac{0}{2} + \frac{1}{6} \frac{8}{7}$ „ in Uttara-phalguni.

The fifth when $15 + \frac{2}{8} \frac{5}{2} + \frac{5}{6} \frac{7}{7}$ „ in Pūrva-phalguni.

Then Chaitri full moon may occur in Hasta or in Chitra.

The first when $14 + \frac{4}{8} \frac{1}{2} + \frac{5}{6} \frac{7}{7}$ remain in Chitra.

The second when $11 + \frac{6}{8} \frac{2}{2} + \frac{4}{6} \frac{0}{7}$ „ in Hasta.

The third when $1 + \frac{2}{8} \frac{8}{2} + \frac{4}{6} \frac{0}{7}$ „ in Chitra.

The fourth when $27 + \frac{5}{8} \frac{5}{2} + \frac{1}{6} \frac{7}{7}$ „ in Chitra.

The fifth when $24 + \frac{2}{8} \frac{0}{2} + \frac{4}{6} \frac{7}{7}$ „ in Hasta.

Then Vaiśākhi full moon in Svāti or Viśākha, or Anūrādha.

The first when $8 + \frac{8}{8} \frac{6}{2} + \frac{5}{6} \frac{6}{7}$ remain in Viśākha.

The second when $25 + \frac{1}{6}2 + \frac{4}{6}7$ remain in Viśākha.

The third when $25 + \frac{2}{6}3 + \frac{2}{6}9$ „ in Anūrādha.

The fourth when $21 + \frac{5}{6}0 + \frac{1}{6}6$ „ in Viśākha.

The fifth when $3 + \frac{1}{6}5 + \frac{3}{6}7$ „ in Svāti.

Then Jyēshṭha happens in Anūrādha, Jyēshṭha, or Mūla.

The first when $17 + \frac{3}{6}1 + \frac{5}{6}5$ remain in Mūla.

The second when $13 + \frac{5}{6}3 + \frac{4}{6}2$ „ in Jyēshṭha.

The third when $4 + \frac{1}{6}8 + \frac{2}{6}8$ „ in Mūla.

The fourth when $0 + \frac{4}{6}5 + \frac{1}{6}5$ „ in Jyēshṭha.

The fifth when $12 + \frac{1}{6}0 + \frac{2}{6}7$ „ in Anūrādha.

Then Āshāḍhi full moon in Pūrva or Uttarāshāḍha.

The first when $26 + \frac{2}{6}6 + \frac{5}{6}4$ remain in Uttarāshāḍha.

The second when $7 + \frac{5}{6}3 + \frac{4}{6}1$ „ in Pūrvāshāḍha.

The third when $13 + \frac{1}{6}3 + \frac{2}{6}7$ „ in Uttarāshāḍha.

The fourth when $39 + \frac{4}{6}0 + \frac{1}{6}4$ „ in „

The fifth when Uttarāshāḍha completes itself.

Kula, Upakula and Kulopakula.

The Śravishṭhi full moon happens in Kula when it is in Dhanishṭha; Upakula in Śravaṇa, and Kulopakula in Abhijit. The last in the third year's full moon unites with the moon when there remains a little more than 12 muhurtas. Then with Śravaṇa the moon comes in contact. Likewise the Kula, Upakula and Kulopakula union with the moon in other constellations may be understood.

The New Moons.

The Śravishṭhi new moon may happen in Āślēsha or Magha. Here the new moon takes place in the fifteenth constellation from that in which the corresponding full moon takes place, and *vice versa*; the fifteenth from the new moon constellation is the constellation of the full moon. It is usual to designate that whole tithi as Amāvāsyā, in which it may happen for a short time at the commencement. In reality Punarvasu, Pushya, or Āślēsha makes Śravishṭhi new moon.

If it is questioned where the first Śravishṭhi new moon happens, then we proceed as follows:—

The constant is $66 + \frac{5}{6}2 + \frac{1}{6}7$. Multiplied by one it is the same. Then deduct from it Punarvasu correction $22 + \frac{4}{6}6$.

The remainder is $43 + \frac{2}{6}1$.

Then deduct the 30 muhurtas of Pushya.

Then $13 + \frac{2}{6}1$ remains.

Āślēsha being of half union area its space comes to 15 muhurtas. Hence when $1 + \frac{40}{82} + \frac{66}{87}$ remain in Āślēsha, the first Amāvāsyā is completed.

For the second new moon, the constant is multiplied by 13 and the corrections are made as follows :—

$$(66 + \frac{5}{82} + \frac{1}{87}) 13 = 858 + \frac{65}{82} + \frac{13}{87}.$$

Then deduct $442 + \frac{46}{82}$ being the correction upto Uttarāshāḍha. Then what remains is $416 + \frac{19}{82} + \frac{13}{87}$.

Deduct again $399 + \frac{24}{82} + \frac{66}{87}$ from the above.

Then remains $16 + \frac{56}{82} + \frac{14}{87}$.

Hence in Pushya the new moon occurs when there remains 16 muhurtas and $\frac{56}{82} + \frac{14}{87}$ of a muhurta in that constellation.

For the third new moon in Śravishṭha, multiply the constant $66 + \frac{5}{82} + \frac{1}{87}$ by 25. The result is $1650 + \frac{125}{82} + \frac{25}{87}$.

Deduct $442 + \frac{46}{82}$ up to Uttarāshāḍha.

The remainder is $1208 + \frac{79}{82} + \frac{25}{87}$.

Deduct again $819 + \frac{24}{82} + \frac{66}{87}$ being one sidereal circuit.

The remainder is $389 + \frac{54}{82} + \frac{26}{87}$ circuit.

Then deduct $309 + \frac{24}{82} + \frac{66}{87}$ being the circuit correction or from Abhijit upto Rōhini.

Then the remainder is $80 + \frac{29}{82} + \frac{27}{87}$.

Then remove 30 for Mṛgaśīras and 15 for Ārdra. Then when $35 + \frac{29}{82} + \frac{27}{87}$ muhurtas are elapsed in Punarvasu, the 3rd Śravishṭhi new moon happens.

Likewise the fourth new moon occurs when $\frac{7}{82} + \frac{41}{87}$ muhurtas have elapsed in Āślēsha.

The fifth when $3 + \frac{42}{82} + \frac{54}{87}$ muhurtas have passed in Pushya.

Praushṭhapadi new moon happens in Magha, Pūrva-phalguni or Uttara-phalguni.

The first occurs when $4 + \frac{26}{82} + \frac{2}{87}$ have elapsed in Uttara-phalguni.

The second when $7 + \frac{61}{82} + \frac{15}{87}$ have elapsed in Pūrva-phalguni.

The third when $11 + \frac{84}{82} + \frac{28}{87}$ „ Magha.

The fourth when $21 + \frac{12}{82} + \frac{42}{87}$ „ Pūrva-phalguni.

The fifth when $24 + \frac{47}{82} + \frac{55}{87}$ „ Magha.

Then Aśvayujī new moon occurs in Uttara-phalguni, Hasta, or Chitra.

The first occurs when $25 + \frac{31}{82} + \frac{8}{87}$ have elapsed in Hasta.

The second when $44 + \frac{4}{82} + \frac{15}{87}$ have passed in Uttara-phalguni.

The third when $17 + \frac{89}{82} + \frac{29}{87}$ „ „

The fourth when $12 + \frac{17}{82} + \frac{43}{87}$ „ Hasta.

The fifth when $30 + \frac{5}{6} \frac{2}{2} + \frac{5}{6} \frac{4}{7}$ have passed in Uttara-phalguni.
Then Kārtiki new moon happens in Svāti, Viśākha, or Chitra.

The first when $16 + \frac{3}{6} \frac{6}{2} + \frac{4}{6} \frac{7}{7}$ have passed in Viśākha.

The second when $5 + \frac{2}{6} \frac{2}{2} + \frac{1}{6} \frac{7}{7}$ „ Svāti.

The third when $8 + \frac{4}{6} \frac{4}{2} + \frac{3}{6} \frac{0}{7}$ „ Chitra.

The fourth when $13 + \frac{2}{6} \frac{2}{2} + \frac{4}{6} \frac{4}{7}$ „ Viśākha.

The fifth when $21 + \frac{5}{6} \frac{7}{2} + \frac{5}{6} \frac{7}{7}$ „ Chitra.

Then Mārgaśīrṣi new moon may occur in Anūrādha, Jyēshṭha or Mūla according to popular view, but really Viśākha, Anūrādha, or Jyēshṭha.

The first when $7 + \frac{4}{6} \frac{1}{2} + \frac{5}{6} \frac{7}{7}$ have passed in Jyēshṭha.

The Jyēshṭhamūliya new moon may occur in Rōhiṇi or Mṛigaśīras in popular view, but really in Rōhiṇi or Kṛittika.

The first when $19 + \frac{4}{6} \frac{6}{2} + \frac{1}{6} \frac{2}{7}$ have elapsed in Rōhiṇi.

The second when $23 + \frac{1}{6} \frac{9}{2} + \frac{2}{6} \frac{5}{7}$ „ Kṛittika.

The third when $32 + \frac{5}{6} \frac{9}{2} + \frac{3}{6} \frac{9}{7}$ „ Rōhiṇi.

The fourth when $6 + \frac{3}{6} \frac{2}{2} + \frac{5}{6} \frac{2}{7}$ „ „

The fifth when $10 + \frac{5}{6} \frac{2}{2} + \frac{6}{6} \frac{5}{7}$ „ Kṛittika.

The Āshāḍhi new moon may happen in Ārdra, Punarvasu, or Pushya, according to popular view, but really Mṛigaśīras, Ārdra or Punarvasu.

The first when $12 + \frac{5}{6} \frac{1}{2} + \frac{1}{6} \frac{8}{7}$ have passed in Ārdra.

The second when $14 + \frac{2}{6} \frac{4}{2} + \frac{2}{6} \frac{6}{7}$ „ Mṛigaśīras.

The third when $9 + \frac{2}{6} \frac{2}{2} + \frac{4}{6} \frac{0}{7}$ „ Punarvasu.

The fourth when $27 + \frac{3}{6} \frac{7}{2} + \frac{5}{6} \frac{8}{7}$ „ Mṛigaśīras.

The fifth when $22 + \frac{1}{6} \frac{6}{2} + 0$ „ Punarvasu.

(To be Continued.)

KALAHASTI AND ITS INSCRIPTIONS.

BY V. VENKATASUBBA AYYAR, ESQ., B.A.

(Continued from Vol. XVI, No. 1.)

AN inscription of Rājarāja III (1216-1248) dated in the eighth year records that Mallikārjunamuḍaiya-Nāyaṇār was set up in the temple of Maṇikaṇṭeśvara by Śaśikula sālukki-taṇiniṇṇruveṇṇa Vīra-Nāraṣiṅgadēvaṇ *alias* Yādavarāyaṇ. Besides setting up this image, he made provision also for its *pūja*, offerings and lamps by assigning evidently a forest as a *dēvadūna* which had to be cleared of trees and then made cultivable. Another record dated in 1528 A.D. in the reign of the Vijayanagara king Kṛishṇarāya tells us that a certain lady set up a *Ganesa* on the way round the hill and that she made provision for offerings to this image. Madhurāntakamārāyaṇ, son of Daṇḍa-Nāyakaṇ Sōmaṇ, says in an inscription that he built a temple and a big *mandapa* in that temple calling it after his name. This temple and the *mandapa* are not to be easily identified now. A Telugu inscription of Kṛishṇarāya dated in 1516-17 A.D. mentions the king's visit to Kalahasti and his building the 100-pillared *mandapa* and the big *gopura*. It is curious to note that this *gopura* in the recent renovation has been disconnected from the temple proper and it now stands aloof to the north of the temple.

Kṛishṇarāya was so much attached to the deity that he presented a valuable necklace set with precious stones to God Kālahastēśvara for his special worship. His successor Achyutarāya showed his veneration to the temple by celebrating his coronation in the presence of God Kālahastēśvara in the cyclic year Virodhi, Saka 1452=1530 A.D. On this occasion, Achyutarāya granted 7 $\frac{3}{4}$ villages as well as the proceeds of the duties on exports and imports collected at certain sea-ports to the god. We thus see that the temple of Kālahastēśvara was in existence in the eleventh century A.D., and it might have existed in some form or other even before as the *Tēvāram* authors have sung about this place, and that the temple of Maṇikaṇṭeśvara was nearly contemporaneous with the big temple though its present building might date from the last quarter of the twelfth century. The Vijayanagara kings took great interest in the temple and the most illustrious of them even came here to adorn it with a huge *gopura* and a *mandapa*.

There has been no dearth of devotees to this temple from very early times. In fact, this temple was surrounded by many *matams* for pilgrims to halt. Some of the important *matams* are Tiruppāsuram-uḍaiyār-*matam*,

Pittirigaḷ-matam, Tirukālatti-Āṇḍār-matam, Kal-matam, and Mudaliyār-matam. Numerous flower-gardens in the vicinity only added to the charm of the temple.

At the foot of the hill there was a flower-garden made by Śaśikula sālukki-taṇinṇu-venṇāṇ Vira-Nāraṣiṅgaḍēvaṇ *alias* Yādavarāyaṇ. This garden was called Vira-Nāraṣiṅgaḍēvaṇ *tirunandavanam* after his name. The temple also gave out its waste lands to be converted into flower-gardens. A record of A.D. 1370 mentions the flower-garden of Maruttuvaṇ Tuṇi Ālvāṇ Periya-uḍaiyāṇ for supplying daily a garland of flowers to the god. The Vijayanagara king Krishṇarāya invested money on land for supplying one garland to the god in the evening. One Madurānthakamārāyaṇ, son of Daṇḍa-Nāyakaṇ Sōmaṇ, cultivated a flower-garden which he called after his name.

Next we might pass on to the attention that this temple received from monarchs down to the ordinary man in the street for its regular worship. The construction of a temple is easy when compared to the difficulty of conducting worship in it. The real thing that matters to a pious Hindu is the worship in the temple more than all other attractions. The continuance of worship being an important matter, we might see what help this temple received from its devotees from time to time. Worship in this temple is now conducted four times a day and this entirely depends upon the wealth of the temple and the interest of the people. Inscriptions amply bear evidence to the regular worship and the celebration of festivals in this temple. Private munificence was easily extended where temple funds were wanting.

Krishṇarāya himself made provision for offerings during the early morning service. A *guru*, by name Pūrṇagiri, disciple of Amarēndragiri, undertook to provide offerings to God during the midday service in the reign of Harihara II. For worship in the temple of Maṇikaṇṭhēśvara, Nallasiddarāśar, son of Vimaraśar, assigned land. People vied with each other for the honour of conducting certain festivals and instances are not wanting, even in ancient times, of individuals bearing the whole expenses of a festival. A lump sum was generally allotted from the interest on which certain stipulated festivals were conducted. An inscription of A.D. 1553 registers a gift of 100 *paṇam* which was to be invested on land from the produce of which, on the seventh-day festival in the month of *Masi*, when the god came out in the street and halted at the entrance near the *balipitam* and when *āratti* was taken, rice-cakes had to be distributed. The number of cakes that certain privileged classes should get is also given.

Mallappa-uḍaiyār, son of Vira-Māchappa-uḍaiyār, made a gift of the village Kōṭṭakkāḍu in Mēlaipattūḍaiya-nāḍu for performing the *maḥā-pūja* on *tiruvadirai*-day. *Māsi-tirunāl* and *Panguni-tirunāl* were conducted in the

name of the aforesaid *guru* Pūrṇagiri. Śaḷukki Kālakāḷaṇ Kālappiriyaṇ in the reign of Rājēndrachōḷadēva I undertook to light a lamp on the *dīpasthanam* on *Kārttigai*-day and to provide offerings to God on that day. Another person in the same reign made a gift of six *Kaḷaṇṇju* of gold from the interest on which to provide offerings to God on *Uttarāyaṇa* and *Dakṣhīnāyaṇa* Samkrānti. The grocer's details for the preparation of the stipulated articles are also given so that there might be no defalcation. For *mantira-deepam*, *antikkāppu* and *tiru-ālatti* a certain person made provision. Gaṅgaikoṇḍa-Sōḷa-Milāḍuḍaiyaṇ, a chief of Milāḍu, made a gift of twenty *Kāsu* for celebrating the festival of *Krittiga-Deepa*. An inscription of Maduraikoṇḍa Kulōttuṅga-Chōḷa dated in his twenty-seventh year registers an arrangement for the early morning raising ceremony and for celebrating the *Puraṭṭāsi-tirunāl*, *Paṅguni-tirunāl* and *Vyyāsi-tirunāl*. The village of Onpakkam itself was given for providing offerings for the early morning service of the god. Even for sweeping and smearing with cow-dung the temple of Maṇikaṇṭēśvara, money was deposited by a Chetty in the treasury. This only shows how even the minor items also received the attention of its devotees. It is thus plain that the temple worship and festivals were regularly conducted and that the temple attracted many devotees from far and near.

In this connection, the arrangements made to facilitate the stay of the pilgrims in the village may specially be noted. The *matams* that existed in the village where pilgrims might halt have already been noticed. A record dated in the twenty-third year of Rājēndra Chōḷa mentions a number of Chetties who received thirty-five *Kaḷaṇṇju* of gold and for the interest on that sum amounting to $5\frac{1}{4}$ *Kaḷaṇṇju* per annum, they had to feed two *śivayōgins* daily. Curiously enough the details of their dietary are also given. The two *śivayōgins* had to be fed daily with rice, one ordinary curry, one *pori*-curry, one *elai*-curry, ghee, butter-milk and four betel leaves and arecanuts each. Śaśikulasāḷukki-narasiṅgaṇ Tirukkālattidēvaṇ *alias* Rājādhiraṇ Yādava-rāyaṇ made provision for feeding the pilgrims who came to worship the god. In the time of Kulōttuṅgadēva, Kaṭṭiyadēvaṇ *alias* Kulōttuṅgachōḷa-Yādavaṇ made provision for feeding Brahmanas, *tapasvins* and people of other castes who passed by the *peruvali* of Tirukkālatti with rice and five curries.

Apart from the munificence of individual persons the temple itself seems to have been rich from very early times. Lands or villages given to the temple were called *dēvadāna* lands or villages. An inscription of Rājārāja-dēva shows that the following villages were *dēvadāna* villages—Urandur, Konapakkam, Kannainellur, Puttur, Nedungan, Nelvayil. All these villages agreed to measure out four hundred measures of paddy into the treasury of the temple. Representatives of all these villages met together and agreed to

give the required paddy. Mummuḍi-Chōḷapuram, i.e., Kāḷabasti itself, was a *dēvadāsta* village of the god. Onpakkam village which was given to the temple had to supply a garland and ghee for four lamps besides offerings for the early morning service of the god. In its heyday the temple seems to have enjoyed the income from nearly all the surrounding villages. Kasaram, Tondamanarrur, Siyapuram, Kannili, Putteri, Kondamapuram, Vijaiyapuram, Muchchavalai are mentioned in inscriptions as *dēvadāna* villages. The temple authorities took particular care to invest the amount in the treasury in deepening the tanks in the *dēvadāna* villages so as to increase the productive capacity of the land watered by these tanks.

Then comes the commonest form of gift for illuminating the temple, largely evidenced in numerous epigraphic records. Perhaps making provision for sacred lamps eternally burning before the God in the temple was considered to be the simplest of gifts which one could offer to Him. From the Imperial King down to the ordinary man everyone indulged in such gifts. Ninety-six sheep or thirty-two cows were generally given for a lamp and the poor who could not afford to pay for one full lamp, made gifts for $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$ lamp according to their ability. The motives that usually prompted these numerous gifts of perpetual lamps to temples through donations of money, cows and sheep were sometimes not genuinely religious and disinterested. Secular interests sometimes largely prompted such gifts. Every person of some means who visited a certain shrine, as a mark of his visit, generally made gifts for lamps. If cattle were not available money might be paid into the treasury and the temple authorities would see that a lamp was kept burning in the temple in the name of the donor. The stone-mason attached to the temple would record this gift on the temple walls. Sometimes we find the year, month, date, *lagna* and *nakshatra* also quoted in the record.

The lamps may mark the visit of a person to the temple. Fines for misconduct were sometimes paid in the shape of gift of lamps. These gifts might also be the result of some worldly desire. Sometimes as a mark of respect for the deceased, a lamp might be maintained in the temple. An inscription of Rajēndrachōḷa dated in the fourth year records a gift of ninety-six sheep for a lamp to secure merit for a soldier who was killed in a private quarrel. Another inscription mentions a gift of land for burning twenty-five lamps from evening till the close for the *śribali* ceremony. A lady by name Kaliyavai cast a lamp after the form of her deceased brother, the commander of Āḷuḍaiyār Tirukkālatti-uḍaiyār, and she also presented ninety-six sheep for maintaining this lamp. The *guru* Pūrṇagiri presented three lights to burn for each of the four services during day and night. Krishṇarāya himself made provision for burning one light during day time and four lights during night

to the god Dakṣiṇāmūrti. Tiruvēgambamuḍaiyāṇ *alias* Amarābaraṇaṇ ṣiya-gaṇṇaṇ, evidently the person who requested Pavanandi to write the well-known Tamil grammar “Nannul” presented thirty-two cows for a lamp to the temple of Kālahastēśwara. An interesting feature about this temple is that it had a class of shepherds called *Tiruvilakkiḍaiyaṇ*. These shepherds tended the cows and sheep left to the temple and they agreed to measure out the stipulated quantity of ghee every day into the treasury of the temple for burning lamps. If a man left ninety-six sheep for a lamp, all these were not entrusted to one shepherd. They were distributed among two or three and sometimes four shepherds to ensure safety so that even if one absconded, the temple would not be a serious loser. The shepherd who received the cattle and his relations had to supply ghee to the treasury of the temple as long as the sun and moon endure. That the cows and sheep were not entrusted to strangers without good security is shown by an inscription of Rājendra Chōḷa-dēva at Tanjore. That inscription runs thus:—“We, all the following shepherds of this village . . ., agree to become security for Ēraṇ Sāttan, a shepherd of this village who had received ninety ewes of this temple in order to supply ghee for burning one perpetual lamp. If he dies, absconds or gets into prison, fetters (or) chains, we, all these aforesaid persons, are bound to supply ghee for burning the holy lamp as long as the sun and the moon endure.” In Kālahasti the names of these shepherds are clearly recorded in inscriptions. Their relations’ names are also given for identification and security. Thus Śelvaṇ who married the daughter of Ayyanperumāl, Oṟrikkōṇ, son of Mādakkōṇ, Pengakkōṇ, son of Gaṇavati-kōṇ, are mentioned in the records of the temple.

In conclusion, I have to acknowledge my indebtedness to Mr. K. Sivarama Ayyar, the Superintendent of the Kālahasti Devasthanam, for placing at my disposal a true MSS. copy of the history of the temple as contained in *cadjan* leaves. This copy appears to be an abstract of the lithic records found in the temple, for I found that the stone inscriptions and this copy agreed together most remarkably. This copy is, therefore, not to be thrown away as valueless.

The name of the writer of these *cadjan* leaves is not to be found. From the matter found in the copy, the chief aim of the writer seems to be to keep a list of the villages belonging to the temple. The writer notes down the villages that came to the temple during the time of the Chōḷas, the Vijayanagara rulers and their subordinates. Taking into consideration the really historical portion, the writer notes that from the time of Vikrama Chōḷa and Kulōttuṅga down to Tirumala and Raṅga, villages were gradually added to the temple. A curious anecdote is also mentioned in this copy. It

appears that the Golkonda ruler came to Kālahasti in Saka 1648 on his return from Ramesvaram and when he left the town, he took with him the *utsava-murtis*. On reaching his capital he suffered from unbearable stomach-ache and it was only cured by certain Brahmins from Kālahasti on condition of surrendering the idols to them.

It is also mentioned in this copy that the Zamindar Dāmarla Veṅkaṭappa Nayudu got the trusteeship of the temple in Saka 1682. It would appear that the *gurukkals* were managing the temple affairs, but the Zamindar called the important members among them and asked them to hand over the trusteeship to him with the resolute promise to resign the new office at any time they were displeased with his administration of the temple. The veracity of this statement remains to be tested by evidences from other sources.

STUDIES IN BIRD-MYTHS, No. VIII.—ON AN ÆTIOLOGICAL MYTH ABOUT THE BRAHMINY KITE.

BY SARAT CHANDRA MITRA, ESQ., M.A., B.L.

ANOTHER of the most familiar birds of the Indian countryside is the Brahminy Kite. It is known to zoologists under the name of *Haliastur indus* (Bodd.). It is commonly found throughout India, Ceylon and Burma. Its names in the Hindi language are *Brāhmani Chil*, *Shankar Chil*, *Dhobiā Chil* and *Ru-mubārik*. Its Bengali appellation is also *Shankar Chil*; while its name in Sanskrit is *Khemankarī*. Its name in the Canarese language is *Garuḍa*. It is known to the Telugu-speaking people under the designations of *Garud-alawa* and *Garuḍa mantaru*.

The most distinguishing features of this bird are that the whole of its head, neck and lower parts down to the middle of its abdomen are white; while the rest of its plumage above and below is chestnut or maroon. So this bird can very easily be distinguished by the most casual observer.

A good many myths are current about this bird. Among these may be mentioned the following:—

This bird is popularly supposed to be the sacred *Garuḍa*, the mythical bird, half-eagle and half-man, which, in Hindu mythology, is the *vāhana* or "vehicle" of Vishṇu, as is evidenced by the fact that, in Canarese and Telugu, the name *Garuḍa* is applied to this bird. The popular English appellation of Brahminy Kite is applied to this bird on account of its being associated, in the popular imagination, with the God Vishṇu; just as the sacred bull is called the Brahminy Bull on account of its being associated with the God Śiva whose vehicle it is.

There is also another legend—an ætiological myth—which accounts for the evolution of this bird. There was a semi-mythical Hindu king whose name was Kaṁsa, but who was a great tyrant. It was one day miraculously prophesied to Kaṁsa that the infant child, whom his sister Devakī was about to give birth to, would destroy him. Hearing this prophecy King Kaṁsa ordered that the child, whether male or female, that should be born of his sister Devakī, should be killed as soon as it was ushered into existence. On the night of the Janmāśṭamī Day, Devakī gave birth to the infant Krishṇa who was to be the future destroyer of Kaṁsa. The night was a stormy one. In order that the prophecy might be fulfilled, the infant Krishṇa was

miraculously conveyed to the home of a neighbouring king whose name was Nanda and whose queen had also, the same night, given birth to a daughter. The infant Krishṇa was substituted for Nanda's daughter who was taken to Devaki's home. As soon as the news that Devaki had given birth to a child, reached King Kāṁsa's ears, he, at once, sent messengers to slay the new-born child. After King Nanda's daughter had been miraculously substituted for the infant Krishṇa, the messengers arrived in Devaki's house and proceeded to slay the new-born child. As soon as they were about to kill the child, King Nanda's daughter assumed the form of a *Shankar Chil* or Brahminy Kite (*Haliastur indus*) and flew away, giving utterance to the prophetic words that he, who was to kill King Kāṁsa, was thriving in the home of Nanda, King of Gokula. It is an account of the association of this bird with the God Viṣṇu and his incarnation Krishṇa, that it is regarded as sacred in Bengal.

Whenever Bengali children see a Brahminy Kite, they cry out :—

১. শংকর চিলের ঘটি বাবাটী।

২. গোদা চিলের মুখে লাটী॥

Translation.—

1. Let drinking vessels and cups be given to the *Shankar Chil* or the Brahminy Kite ;
2. But let the common kite (*Milous Govinda*—Sykes) get a kick on its face.

I think that the specific name *Govinda* given by Sykes to the Common Kite has been so given in allusion to the association of this bird with the legend about the intended slaying of the infant Krishṇa, one of whose homonyms is Govinda.

In Southern India also, the Brahminy Kite is regarded as sacred. There also, it is considered as sacred to the God Viṣṇu of the Hindu Trinity. It is propitiated by means of performing a kind of *pūjā* to it. This propitiatory act consists principally in feeding this bird with pieces of meat which are thrown into the air to the accompaniment of the chanting of *mantrams* or prayer-formulæ. These birds are fed, in this way, under the belief that the God Viṣṇu, to whom they are sacred, will reward the performance of these pious acts. [See the plate illustrating "The Feeding of the Sacred (or Brahminy) Kite at Turnkali Koondrum" in the Madras Presidency, which is published on page sixty-six of Volume I of the magnificently illustrated work entitled *The Queen's Empire* (published by Messrs. Cassell & Co., Ltd., of London, 1897.)]

I have already stated above that in Canarese and Telugu, the Brahminy Kite is called Garuḍa. In Southern India, this bird is also regarded as the

emblem of the infinite, because its frequent wheelings round, in the air, in the form of circles, are symbolical of eternity.*

In Southern India, the Brahminy Kite is also looked upon as a bird of good omen. The sight of one of these birds, the first thing in the morning, especially on a Sunday morning, is believed by the Hindus of that part of India to confer good luck on the seers thereof. Mrs. F. E. Penny says that "many a Hindu takes the trouble to walk some distance to a spot where he is certain to see this bird so that he may be sure of good fortune."†

From a study of the foregoing ætiological myth, it would appear that the primitive myth-maker or fabricator of fanciful stories has made use of the fact that Nanda's infant daughter prophesied the death of the tyrant Kāṃsa and, then, vanished, in composing this myth which accounts for the evolution of the Brahminy Kite (*Haliastur indus*).

* *On the Coromandel Coast*. By F. E. Penny, London, Smith Elder & Co., 1908, page 312.

† *Op. Cit.*, page 312.

REVIEWS.

Modern Review, January 1926.

WITH the beginning of this year the *Modern Review* enters upon the thirty-ninth volume and we believe, the twentieth year of its life. At the very commencement of its career, it attracted the notice and obtained the recognition of that prince of journalists, the late Mr. W. T. Stead. It very soon outdistanced its rivals in the field of periodical journalism and is to-day the foremost monthly review and miscellany published in India. Mr. R. Chatterjee deserves to be congratulated for the remarkable success which the *Modern Review* has achieved. The foremost scholars of our time consider it an honour and a privilege to be permitted to contribute to the columns of the Review. It would be invidious to point out a contribution or an illustration of this writer or that. Suffice it to say that the tremendous literary upheaval of the twentieth century finds abundant expression in its pages. With all this, we should not be doing sufficient justice to its work, if we did not make some reference to a most important section of its pages, namely, the notes, for here we find a most careful and searching analysis of the topics and occurrences of the day.

Latterly Mr. Ramananda Chatterji in collaboration with Mr. Ashoka Chatterji has started the 'Welfare', particularly intended for the uplift of the younger generation and we have no doubt, in course of time, it will also occupy a very high place in the affections of our countrymen.

S. M. S.

Memoirs of the Archæological Survey of India :

"No. 21. The Baghela Dynasty of Rewah."

By HIRANANDA SHASTRI, M.A., M.O.L.

THIS small brochure of fourteen pages with a frontispiece makes a very interesting reading. It has been said that "the Rewah Family are singularly devoid of reliable historical facts". This book which is indeed very welcome even on this account, summarizes a hitherto unpublished and valuable book, *Virabhanudayakavyam*. The latter, we are told, is in verse, and contains twelve cantos. From the summary given by Mr. Shastri, it will be evident that the book must be very important from a historical point of view, composed about 1540 A.D. The get-up of the book is, as usual, very neat.

S. M. S.

Memoirs of the Archæological Survey of India :
"No. 27. Pageant of King Mindon."

By CHAS. DUROISELLE, M.A.

PICTORIAL representations of the Pageant of King Mindon, a ruler of Burma in the nineteenth century, have now been reproduced in fifteen plates, of which the first is coloured. Each plate has an explanatory note, giving a clear and lucid account of the painting in the picture. The book is very interesting and deserves to be in the hands of every student of history and lover of art.

CORRESPONDENCE.

*The Editor,
Quarterly Journal,
Mythic Society.*

DEAR SIR,

HAVING in my mind the telegrams to the papers, sometime ago, concerning the discovery made that the whole of North-Western India was under Persian rule about 300 A.D., I was interested the other day, when visiting the Jaganmohan Palace in Mysore, to find there two old Persian documents, said to have been written during the Sassanian dynasty. The pictures heading both the documents are of the usual characteristic ancient Persian design. But while the writing on one of the documents is in cuneiform, the other one is written in some old South Indian style of character.

I am not able to decipher any of the documents myself (in fact, I do not even know whether they have been deciphered at all), but in view of the recent discovery, I wish to draw the attention of archæologists to those two documents, as they may perhaps throw some light on ancient Indian connexion with Persia.

Yours truly,
H. BJERRUM.

List of Subscriptions and Donations received during the Quarter ending 31st December 1925.

Names.	Volume.	Amount.		
		RS.	A.	P.
Messrs.				
Sir K. P. Puttanna Chetty, Bangalore ..	XVI	5	0	0
B. Ramaswamaiya, Bangalore ..	do	5	0	0
D. Venkataramaiya, Bangalore ..	do	5	0	0
Rao Saheb C. P. A. Aiyer, Bangalore ..	do	5	0	0
Prof. B. N. Sharma, Benares ..	do	3	0	0
B. R. Subba Rao, Mysore ..	do	3	0	0
B. Nagesha Rao, Bangalore ..	do	5	0	0
Rao Bahadur R. Narasimhachar, Bangalore ..	do	5	0	0
V. Ayyasami Iyer, Bangalore ..	do	5	0	0
B. Venkoba Rao, Bangalore ..	Life-Membership Donation	100	0	0
C. N. Narasinga Rao, Bangalore ..	XVI	5	0	0
B. Vasudeva Moorthy, Bangalore ..	do	5	0	0
S. Srikanta Shastry, Mysore ..	do	3	0	0
K. Krishnamacharya, Tirupathi ..	do	3	0	0
T. S. Venkannaiya, Bangalore ..	XV & XVI	10	0	0
K. Matthan, Bangalore ..	XVI	5	0	0
B. Balajee Rao, Bangalore ..	do	5	0	0
G. B. Raghavendrachar, Bangalore ..	do	3	0	0
C. E. Rama Rao, Bangalore ..	do	5	0	0
R. Ranga Rao, Bangalore ..	do	5	0	0
T. A. Swaminatha Iyer, Madras ..	do	3	0	0
K. Ramavarma Raja, Cranganore ..	do	3	0	0
V. Venkatachellam Iyer, Nellore ..	do	3	0	0
Niligiri G. Sanjeevaiya, Bangalore ..	Life-Membership Donation (part)	10	0	0
Mushir-ul-Mulk Mir Humza Husein, Bangalore	XII	5	0	0
B. A. Fernandez, Bandra ..	XVI	3	0	0
Royal University Library, Sweden ..	do	3	1	0
Rev. P. Picot, Coromandel, K. G. F. ..	do	3	0	0
M. P. Somashekhara Rao, Bangalore ..	do	5	0	0
A. R. Srinivasiyengar, Bangalore ..	XV & XVI	10	0	0
Earnest Claudius, Bangalore ..	XVI	5	0	0
M. H. Ramachandra Rao, Hassan ..	do	3	4	0
M. Ramachandra Rao, Bangalore.	Life-Membership Donation (part)	10	0	0
T. S. Appajee Rao, Nellore ..	do	10	0	0
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Names.	Volume.	Amount.		
		RS.	A.	P.
Messrs.				
T. B. Russell, Bangalore XV & XVI	10	0	0
Sir A. R. Banerji, Bangalore XVI	5	0	0
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E. P. Metcalfe, Bangalore do	5	0	0
P. A. Barton, Bangalore do	5	0	0
W. H. Thomson, Bangalore do	5	0	0
G. Srinivasa Iyer, Bangalore XV & part XVI	5	0	0
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Books Presented or purchased during the Quarter ending 31st December 1925.

Presented by :—

The Smithsonian Institution, Washington.—

1. The Origin and Antiquity of the American Indian, by Alas Hrdlicka.
2. The Anthropological Work of Prince Albert I of Monaco and the Recent Progress of Human Palæontology in France, by Marcellin Boule.
3. The Ruined Cities of Palestine, East and West of the Jordan, by A. W. Sutton, Esq., J.P., F.L.S.
4. Recent Progress and Trends in Vertebrate Palæontology, by W. D. Matthew.
5. The Hovenweep National Monument, by J. Walter Fewkes.

The Asiatic Society of Bengal.—

1. Memoirs of the Asiatic Society of Bengal, Vol. IX, No. 1—Geographic and Oceanographic Research in Indian Waters, by R. B. S. Sewell, M.A.
2. Memoirs of the Asiatic Society of Bengal, Vol. X, No. 1—Studies in Santal Medicines and Connected Folklore, by the Rev. P. O. Bodding.
3. Memoirs of the Asiatic Society of Bengal, Vol. VI, Part 10—Zoological Results of a Tour in the Far East. Edited by N. Anandah, D.Sc., F.A. S.B., F.R.S.
4. Memoirs of the Asiatic Society of Bengal, Vol. IX, No. 2—Geographic and Oceanographic Research in Indian Waters, by R. B. S. Sewell, M.A.

Director-General of Archæological Survey of India.—

1. Memoirs of the Archæological Survey of India, No. 15—The Drawing of Geometric Patterns in Saracenic Art, by E. H. Hankin, M.A., D.Sc.
2. Memoirs of the Archæological Survey of India, No. 27—Pageant of King Mindon, by Chas. Duroiselle, M.A.
3. Memoirs of the Archæological Survey of India, No. 21—The Baghela Dynasty of Rewah, by Hiranand Shastri, M.A., M.O.L.
4. Archæological Survey of India,—Annual Report, 1922—23.

The Government of Mysore.—

1. Report of the Administration of Mysore for the year 1924—25.
2. The Mysore Season and Crop Report for the year 1923—24 with the Government Review thereon.
3. Report on the Working of the Govt. Press for 1924-25.
4. Report on the Working of the Stores Purchase Committee, 1924-25.

5. Report of The Mysore Military Forces Committee, 1924-25.
6. Report of The Meteorological Department Committee, 1924-25.
7. Report of The Mysore Government Museum Committee, 1924-25.
8. Report on the Working of the Government Stud Farm, Kunigal Committee, 1924-25.

Mr. L. A. Cammiade, Ootacamund.—

The Journal of the Royal Anthropological Institute, Volumes 31 and 32.

Mr. S. M. Sitaramaiya, Bangalore.—

1. The Mysore Blue Book Journal,
Volume VI, 1921—22.
Volume VII, 1922—23.
 2. Expansion of England, by Seeley.
 3. British Dominion in India, by Sir Alfred Lyall.
 4. The History of England, by A. F. Pollard.
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EXCHANGES.

I. The Editors of :—

1. "HINDUSTAN REVIEW," *P.O. Box No. 2139, Calcutta.*
2. "INDIAN ANTIQUARY," *British India Press, Mazagaon, Bombay.*
3. "CEYLON ANTIQUARY," *The "Times of Ceylon", Colombo.*
4. "MODERN REVIEW," *91, Upper Circular Road, Calcutta.*
5. "THE HINDU MESSAGE," *Srirangam.*
6. "WEDNESDAY REVIEW," *Teppakulam, Trichinopoly.*
7. "THE SOUTH INDIAN RESEARCH," *Vepery, Madras.*
8. "THE EASTERN BUDDHIST", *The Library, Sinshu
Otani University, Kyoto.*
9. "THE CHRISTIAN COLLEGE MAGAZINE," *Madras.*
10. "THE EDUCATIONAL REVIEW," *Mount Road, Madras.*
11. "THE VEDIC MAGAZINE," *Gurudatta Bhavan, Lahore.*
12. "ZEITSCHRIFT DER DEUTSCHEN MORGENLANDIS-
CHEN GESELLSCHAFT," *Halle, Germany.*
13. "THE SANSKRIT BHARATHI," *Burdwan, Bengal.*
14. "THE JOURNAL OF THE AMERICAN ORIENTAL
SOCIETY," *New Haven, Connecticut, U.S.A.*
15. "THE KALPAKA," *Tinnevely.*
16. "EVERYMAN'S REVIEW," *Madras.*
17. "MAN," *The Royal Anthropological Institute, London.*
18. "DJAWA," *Kanarillaan, 13, te Weltevreden, Java.*
19. "MAN IN INDIA," *Ranchi, B.N.Ry. (India).*
20. "THE KARNATAKA GRANTHAMALA," *Mysore.*
21. "THE MYSORE CHRONICLE," *Tumkur.*
22. "THE JAIN GAZETTE", *Parish Venkatachala Iyer Street,
George Town, Madras.*
23. "THE INDIAN SOCIAL REFORMER," *Navsari Chambers,
Outram Road (opposite Hornby Road), Fort, Bombay.*
24. "PRABUDDHA BHARATA, ADWAITA ASRAMA,"
Mayavati P.O., Almora Dist.
25. "THE SHAMA'A," *Aghore Mandir, San Thome, Madras.*
26. "VISHVA-BHARATHI," *10, Cornwallis Street, Calcutta.*
27. "NAVASHAKTI," *Dharwar.*
28. "THE SHRINE OF WISDOM," *The Hermetic Truth Society,
Lincoln House, Acacia Road, Acton, London (21-3).*

29. "WELFARE," 91, *Upper Circular Road, Calcutta.*
30. "MYSORE BLUE BOOK AND PUBLICITY JOURNAL,"
Bangalore.
31. "BUDDHIST ANNUAL OF CEYLON," *Colombo.*
32. "KARNATAKA SAHITYA PARISHATPATRIKA," *Bangalore.*
33. "EPIGRAPHIA INDO-MOSLEMICA," *Simla.*
34. "YOGAMIMAMSA," *Kunjavana, Lonavla, Bombay.*
35. "THE LITERARY REVIEW," *Nagpur City.*
36. "THE MYSORE GAZETTE," *Librarian, Public Offices,*
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37. "PRABUDDHA KARNATAKA," *Karnatakasangha, Central*
College, Bangalore.
38. "INDIAN STORY TELLER," 164, *Cornwallis Street, Calcutta.*
39. "THE GUARDIAN," 86, *College Street, Calcutta.*
40. "THE YOUNG MEN OF INDIA," 5, *Russel Street, Calcutta.*
41. "THE PREMA," *Tungabhadra P.O.*
42. "AL-KALAM," *Bangalore.*
43. "VRITTANTA PATRIKA," *Mysore.*
44. "MYSORE CO-OPERATIVE JOURNAL,"
No 1, 1st Road, Chamarajapet, Bangalore City.
45. "INDIAN HISTORICAL QUARTERLY,"
101, Mechnabazar Street, Calcutta.
46. "THE PHILOSOPHICAL QUARTERLY,"
Amalner (East Khandesh).
47. "THE KARNATAKA," *Basavangudi P.O., Bangalore City.*
48. "RANGABHUMI," *Basavangudi, Bangalore City.*

Publications from :—

- II. THE DIRECTOR OF PUBLIC INSTRUCTION, *Poona.*
- III. THE DIRECTOR-GENERAL OF ARCHÆOLOGY, *Simla.*
- IV. THE GENERAL SECRETARY, BIHAR & ORISSA
RESEARCH SOCIETY, Patna.
- V. Do. "THE ROYAL ASIATIC SOCIETY",
Bombay Branch, Bombay.
- VI. Do. ASIATIC SOCIETY OF BENGAL,
1, Park Street, Calcutta.
- VII. Do. THE INDO-FRENCH HISTORICAL SOCIETY,
Pondicherry.

VIII. THE GENERAL MUSEUM OF FINE ARTS,

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(h) THE BANGIYA SAHITYA PARISHAD,

243/1, Upper Circular Road, Calcutta.(i) THE PURRA TATTWA MANDIR, *Ahmedabad.*

(j) THE ANTHROPOLOGICAL SOCIETY OF BOMBAY,

Town Hall, Fort, Bombay.

(k) THE K. R. CAMA ORIENTAL INSTITUTE,

172, Hornby Road, Fort, Bombay.

(l) ASSOCIATION FRANÇAISE DES AMIS DE L'ORIENT,

Musée Guimet, Place d'Iena, Paris (XVI).

XIV. THE SUPERINTENDENT OF—

(a) ARCHÆOLOGICAL SURVEY, *Southern Circle, Madras.*(b) RESEARCH DEPARTMENT, *Kashmir State, Srinagar.*(c) ARCHÆOLOGY, *Trivandrum, Travancore.*XV. THE CURATOR, *Oriental Library, Mysore.*

XVI. ASSISTANT ARCHÆOLOGICAL SUPERINTENDENT

FOR EPIGRAPHY, Madras.

The
Quarterly Journal
of the
Mythic Society

Vol. XVI]

APRIL, 1926

[No. 4

ORIGIN OF THE KONKANI PEOPLE AND LANGUAGE.

BY J. A. SALDANHA, ESQ., B.A., LL.B., M.L.C. (Madras).

(A paper read before the Mythic Society.)

INDIA rejoices or sorrows in communalism—not communism—two terms standing much in contradiction. Konkani communities play an important part in Indian communalism, so much so that the Minister for Local Self-Government at Madras recently defended the nominations from a particular small section of Konkanis as members of local boards as if that section was entitled to it as a minority. In tracing the origin of the Konkani people, the latest stage of it must be traced to Goa (old Gomantaka), not to Konkani as recognized in the existing official terminology (that is the Ratnagiri and Thana districts in the Bombay Presidency). Strange to say, in Goa itself the Portuguese writers called the language spoken by the Konkani people *Kanarin*, that is, Kanarese; the grammar of the language, published by Thomas Stephens, the first Englishman that came to India, is described as of *Brahmana Canarin* (or *Brahmanachi Basha*), that is the language of the Canarese Brahmans.

2. That description, I think, gives us the clue to the true origin of the Konkani language as well as the Konkani people. In my own early endeavour to trace this origin, I was led to believe that Konkani, though not a dialect of Marathi, grew side by side from the same stem (see my Notes in the

Mangalore Magazine—Vols. I & II, republished in the author's *Indian Caste*—Vol. I—Konkani or Goan Castes). Dr. Grierson concludes that “both Marathi and Konkani are derived from the same Prakrit and are both dialects of the same form of speech” (*Linguistic Survey of India*, Marathi Language, p. 164). There is no doubt that of all the languages in India, Marathi may claim the closest relationship with Konkani, as may be inferred from the following list of words among many others :—

Konkani	Marathi	Kanarese	Gujerati	Hindustani
undir mazar kombi tambdo lahn aik gelo	undir mazar kombadi tamda lahan aik gela	ili bekku hennu kempu sanna kelu hodonu	undar biladi margi lal nanun sambal gayo	chiva billi murgi lal chota sunno gaya

3. Konkani, on the other hand, discloses peculiarities that are very striking, as will appear from the following list :—

Konkani	Kanarese	Sanskrit	Marathi	Gujerati
àvum ásãñ maka udák khaiñ hanga dovór apai luvn vomp lagin bhitor chedo	nanu iruthene nanage niru elli illi haku kari koi bithu samipa volage huduga	aham asēñ (Prak.) mahyam udaka kva iha dhor ahva lu vapá samipá abhyantar batu	mi astoñ mala pani khute yetheñ tev buláv kap per zaval ánt por	huñ chun mane pani khyañ hyan darav bolav lan vav najik andarnu chokro

4. Referring to Konkani Dr. Wilson writes :—“By this designation is not meant the very slight dialectic difference which exists between the language (Marathi) of the British Dekkan and the corresponding country running between the slopes of the Ghauts and the Indian Ocean forming the British

Konkan, but the language of the country commencing with the Goa territory and extending considerably to the south of Karwar and even Honawar. The speech of this district differs from Marathi as much as Gujarati differs from Marathi. It is manifestly in the main formed on the basis of Sanskrit."

5. There are in Konkani many words which appear at first sight to be corruptions from Marathi, but really most of them will be found when examined to be corruptions independent of Marathi, from original roots common to both. For the process of phonetic corruption should be carefully distinguished from the process which goes by the name of Grimm's law. The former is a process of derivation by shortening syllables, assimilating sounds or adding letters. The latter is a divergence in different directions, subject to laws of euphony, of what were originally indistinct sounds. It is not the case of corruption but of distinct pronunciation. The process of Grimm's law is used only with reference to consonants. A similar process is observable sometimes in case of vowels under certain combinations in Konkani as compared with some other Aryan languages in India: for instance, we find that (a) words beginning with *kā* in Konkani change into *ka* (*ā* as in English *but*) in Marathi; (b) the syllable *vo* in Konkani changes into *o* or *ho* in Marathi, and (c) nouns ending in *o* in Konkani end in *ā* in Marathi. There are of course exceptions. The following are a few interesting examples:—

Konkani	Marathi
kántálo (disgust)	kantaḷa
kamp (tremor)	kamp
kāpur (Camphor)	kapur
vojen (burden)	ozen
vonk (vomit)	onk
voḷok (recognition)	oḷok
voi (yes)	hoi
vont (slip)	hont
vánto (share)	vantá
dago (deceit)	dagá
daryo (sea)	daryá
godo (horse)	godā
ukod (boil)	ukal
lailāum (auction)	lilaum
lip (hide)	lap
fol (fruit)	fal

6. These peculiarities ought, I would urge, divert our attention, to some other source of derivation of the language of Konkani, than mere dialectic variation from the same Prakrit of Western India as held by

Dr. Grierson. Do they not point to an importation on a large scale of words of an old Northern India Prakrit as a result of the settlement of a masterly tribe of Aryan colonists in South Konkan (Goa and the country round about) and the imposition not only of their rule or overlordship, but of their linguistic peculiarities on an existing variety or dialect of the Marathi, just as the Norman-French, on their conquest of England, poured into the Anglo-Saxon their Latinized Franco-Gaelic language?

7. There is reason to infer that not only philology of the language, but the peculiar position occupied by the Brahman community of Goa, (called variously Gaud-Brahmans, Gaud Sarasvat Brahmans, Shenvis, Konkans) in Western India, their physical features, their historical traditions and various other factors support the theory that they immigrated from Northern India during mediæval Hindu ages between the eighth and twelfth centuries after Christ and settled in S. Konkan, and that holding as they did a dominating position in their new home for several centuries, they influenced the language to an extent as to create a new language like the English.

8. It is important to distinguish the Konkani Brahmans from the Konkanasth Brahmans. The former belong to the Pancha Gauda Brahmans, the latter to the Pancha Dravidas. In physical features, customs, habits of life, fashions as well as language, they differ in many respects. The Konkani Brahmans have produced many distinguished leaders like a Bhandarkar, Chandavarkar, Telang, just as Konkanasth Brahmans can rejoice in a Ranade, Tilak, and Gokhale. Besides, the other high caste Konkani communities have always been to the forefront, not to speak of the Konkani Christians, to which belonged the late Gerson-da-Cunha, once the President of the Anthropological Society of Bombay, and which can boast of a gentleman who was President of the Bombay Corporation, Dr. Viegas, a position now occupied by Mr. Joseph Baptista, who however belongs to a Marathi-speaking Christian community, and got himself elected as M. L. C. of Bombay as a Maratha. A number of distinguished members in the Mysore Service and a Mysore M. L. C. are like myself proud to belong to the Konkani community, and rejoice in speaking the Konkani language.

9. We shall now see what light is thrown on the question by the traditional origin of the Gaud Sarasvat Brahmans. Claiming as they do to be the chips of the Gaud Sarasvat Brahmans of Northern India, they trace their descent from the early pure Aryan colony that settled on the banks of the Sarasvati, a river identified by some with the Sarasvati of modern times (Sarsuti near Thaneshwar in the Punjab), but as described in the *Rig-Veda* identified by some with the Indus or even the Haracquati of the Avesta (the modern Helmand). With the Aryan colonization of Northern

India, the Sarasvat Brahmans settled in various parts of the country, Sind, Rajputana, Tirhoot, Bengal (or Gaur) and other provinces. How and when they settled in Western India, is related to us in *Shahyadari Khand* of the *Scanda Purana*, *Mangesh Mahatmya*, *Konkan Akhyana* and other books, which have recorded the traditions current among the people of their origin and settlement, with their own versions of the events, which must be taken for what they are worth. Parashurama (Rama with the axe), it is related, having reclaimed the land below the Western Ghats from the sea by hurling down his powerful axe, brought with him sixty-six or *shahashasti* families of Brahmans from Tirhoot with their family gods and granted them the most fertile and beautiful province in this land, namely *Gomantak* or *Gomanchal* (Goa). They were distributed over sixty-six villages of the southern district, hence called *Shahashasti* or *Sashti* or Salsette, and thirty villages of the island called at present Ilha, *Tisvadi*, altogether ninety-nine (*Shahannav*) villages. The Brahmans spread themselves over the northern districts of *Bradesh* (twelve villages), Pedne and Kudal Mahals and other parts of the Goa province and South Konkan. They were called by the names of the villages in which they had settled as Kushasthalis, Kelosikars, Bhalvalekars, Mainkars, and also by the names of their districts as Sasastikars, Bardeshkars, Kudaldeshkars, Shenvis, the last name being derived by some from the ninety-six (*Shahannav*) villages, in which the sixty-six or as some say ninety-six families of Brahmans were distributed. Each village constituted a complete self-contained corporation with all professional castes, the highest of whom were the Brahmans, entitled to special privileges in the control of the village administration and in the certain perquisites or incomes from the village corporation lands.

10. The original colony of Gaud Sarasvats is said to have received, as related in the *Mangesh Mahatmya*, further accession of immigrants of Brahmans from Kanya-kubja or Kanouj, led by (1) Devasarma of the Vatsa gotra, (2) Lomasarma of the Kundinya gotra, brother-in-law of Devasarma, and (3) Shivasarma of the Kaushika gotra, cousin of Devasarma. The first two settled in the village of Kushasthali, and the last in the village of Keloshi. It is said that they had been on their way to Rameshwaram, but that they were so struck with the beauty and spirituality of the place during their halt in Goa, that they converted their halt into permanent residence. The memory of the Sharmas is preserved by means of figures placed before the images of the God Mangesh and the Goddess Shantadurga, which the Sharmas are supposed to have brought from Tirhoot. It is asserted by some that Konkani Brahmans have had some connection with Bengal because of similar tendencies in certain sounds in both the Bengali

and Konkani languages, e.g., nouns ending in *a* in Marathi and Hindi end in *o* in Bengali and Konkani, as *godá*, *godo*; both Bengali and Konkani incline to the *sh*, while Marathi inclines to the sound *s*. It is suggested by Beames in his *Comparative Grammar of the Aryan Languages* that these tendencies may be due to climatic influences of low-lying lands.

11. However few may have been the original Gaud Sarasvat settlers in Southern Konkani, they grew in number rapidly and attained to a position of affluence quite unique. Nowhere else in India has a new body of settlers obtained such a complete ascendancy as landlords and state and village officers on an older population, as have the Gaud Brahmans in Goa and the neighbouring districts. Bringing as they did an Indo-Aryan dialect of their own, is it not likely that they impressed some of its features on the local vernacular? That is what, it seems to me, has actually happened.

12. It is curious to note that Thomas Stephens, who composed the first Grammar of the Konkani language, distinguishes it from Marathi by calling it *Brahmanna Canarin* or *Brahmannachi Bhasha*. A perfect master as he was of both Marathi and Konkani as well as Sanskrit and Prakrit, he must have known the origin of Konkani and deliberately designated it as a Brahman language, because it was the peculiar heritage of the Gaud Sarasvat Brahmans, among whom he lived, formed by importation of a northern Prakrit variety and its *super-imposition* on a Konkani Marathi variety. The subject is of fascinating interest and deserves a careful study in the hands of philologists, for what is true of Goa in the growth of Aryan and Brahmanic influences, to a great extent more or less has its analogies or similarities in the rest of Southern India.

13. It is curious to note that while Thomas Stephens composed a grammar of the Konkani language (or *Kanarin*, as he called it) and published a number of doctrinal works in Konkani, he had recourse to Marathi for writing his *magnum opus*—the *Christian Puran*, which describes the history of the Bible—the *Paradise Lost and Regained*, in noble poetical language and has been found by eminent scholars like the late Dr. Col. Kirtikar and Professor Bhagvat, one of the greatest and grandest poems in the Marathi language (see *Christian Puran* by Thomas Stephens edited by Mr. Joseph Saldanha, B.A., and published by Mr. S. Alvares of Mangalore).

14. The Gaud Sarasvat settlement in Western India is traced in *Shahyadari Khand* and some other works to Parashuram's colonization of the western coast of India with Brahmans and people of Northern India. There are obvious grounds for doubting this supposed origin on what is after all a myth. The function of this Mythic Society is to find out what truth underlies a myth or how far it covers an historical fact. I may be permitted to refer

here to a passage on the point from my brochure on *Indian Castes*, Vol. I, *Goan or Konkani Castes* (para 14, page 53) and I may safely venture to maintain that the Gaud Sarasvat settlement in Western Indian Coast took place some time in the Hindu mediæval age—between the eighth and the twelfth centuries.

15. Besides Konkani Brahmans, there exist various other Konkani castes, Vanis, Sherogars, Sutars, Kunbis, Bhandaris (tappers), Kharvis, (fishermen), Padtis, Madivals (Dhobies), Sudirs, Kumbars (potters), Keloshis (barbers) and others. The convert Christians from the Konkanis rejoice also in castes—Brahmans, Chraodas, Gauds, Sidirs, Renders, etc., who seldom or never intermarry and only very occasionally associate with one another for social purposes, though they gather together in the same churches for religious purposes and have no objection to approach the Holy Table and do not insist on separate wings of a church for higher and lower castes or non-caste people. The origin of the Konkani castes, other than Brahmans and Vaishyas, may be traced to the old local or indigenous Dravidian or Adi-Dravidian tribes, though profoundly affected in language by Gaud Sarasvat influences, as already pointed out above. The subject, however, deserves to be deeply studied in the interests of the science of ethnology and philology. Such study will be sure to throw much light on the racial and linguistic origins in Southern India and the Dekkan, shrouded in myths and legends, which must be left to scholars more erudite and with a taste for research.

VALMIKI'S RAMAYANA AND THE WESTERN CRITICS.

By B. V. KAMESVARA AIYAR, ESQ., M.A.

SANSKRITISTS in Europe and America have devoted a good deal of attention to Vālmiki's Rāmāyaṇa and have brought their critical acumen to bear upon the interpretation of the epic. The results of their research are not likely to appeal to Indian minds; but it is worth while knowing what they think of the poem and of the incidents related therein. Their views may be summarized under three main heads—(1) how far the events narrated therein can be accepted as historical and how the incidents can be interpreted, (2) when the original and substantive portion of the poem was composed, and (3) what portion constituted the original poem and what, the later additions and interpolations.

Re. (1) Lassen, a German scholar and pioneer of Sanskrit criticism, held that the poem was intended to represent allegorically the first attempt of the Aryans of North India to conquer the South. Professor A. A. Macdonell of the Oxford University rejects this view, as Rāma is nowhere described in the poem as founding an Aryan realm in the Dekhan and as Vālmiki shows no such indication anywhere.

Professor A. Weber expressed a somewhat modified view. In the Ṛigveda and the Gṛihya sūtras, Sītā is simply the field-furrow, regarded with divine honours. The Sītā of the Rāmāyaṇa would thus represent Aryan husbandry. Rāma must be identical with Bala-Rāma, the plough-bearer! The Aryan plough-bearer had to protect Aryan husbandry against the attacks of predatory aborigines, represented by Rāvaṇa and his hosts. Those aborigines who were well disposed towards Aryan civilization are represented by Hanumat, Sugrīva and their followers, described as monkeys on account of the striking ugliness of the Indian aborigines, as compared with the Aryan race.

This theory also is rejected by Professor A. A. Macdonell, who writes: "This form of the allegorical theory also lacks any confirmation from the statements of the epic itself; for Rāma's expedition is nowhere represented as producing any change or improvement in the civilization of the South. The poet knows nothing about the Dekhan beyond the fact that Brāhman hermitages are to be found there. Otherwise it is a region haunted by the monsters and fabulous beings with which an Indian imagination would people an unknown land." Weber forestalls this objection and says: Vālmiki was a clever poet. He must have lived somewhere about the commencement of the Christian era. His object was to describe India not as it was in his time but several centuries earlier; so he did not mix up later conditions, though familiar to him, with the earlier state of things!

Professor Jacobi, in his monograph on the Rāmāyaṇa (Bonn 1893) holds that the poem is not an allegory but is a modernized version of a Vedic myth. In the Ṛigveda, Sītā is the field-furrow personified and invoked as a goddess. In some of the Gṛihya sūtras, she is regarded as the genius of the ploughed field and as the wife of Indra or Parjanya (rain-god). There are traces of this origin in the Rāmāyaṇa. For Sītā is represented* as having emerged from the earth when her foster-father ploughed the sacrificial ground. Again, in the *Uttara Kāṇḍa* she is said to have returned underground in the arms of her mother Earth. Her husband Rāma would therefore represent Indra; and his conflict with Rāvaṇa would be thus a later version of the Ṛigvedic conflict between Indra and Vṛitra. This identification would receive confirmation from the circumstance that Rāvaṇa's most prominent son is known as Indra-jit or Indra-śatru, which is a Ṛigvedic appellation of Vṛitra. Rāvaṇa's abduction of Sītā and her recovery by Rāma have their prototypes in the Ṛigvedic stealing of the cows by the demons called the Paṇis and their recovery by Indra. In Hanumat, son of the wind-god, would survive a reminiscence of Indra's alliance with the wind-lords (Maruts) in his conflict with Vṛitra. In the Ṛigveda, Saramā, as Indra's messenger, crosses the waters of the Rasā and tracks the cows stolen by the Asuras. In the later poem, Hanumat crosses the ocean and tracks Sītā abducted and kept in concealment by the Rākshasa. The name, Saramā, itself, recurs in the Rāmāyaṇa as the name of the Rākshasī who consoles Sītā in her captivity. Vālmiki has thus built up a romance out of the well-known Ṛigvedic mythology.

Prof. A. A. Macdonell's view is this: The poem consists of two distinct parts. The first describes the events at the court of Daśaratha, the successful intrigues of a queen to set up her son on the throne, Rāma the eldest son's going to the forest as an exile, Bharata's seeking his elder brother and his return to the capital on Rāma's refusal to return and accept the crown. There is nothing fantastic in this narrative nor has it any mythologic background. This part may therefore have *a real historical basis*. There must have been current in Ayodhyā a number of epic tales, narrating the fortunes of the Ikshvāku hero, Rāma. Ikshvāku,† and Rāma‡ are the names of celebrated kings mentioned in the Ṛigveda, though without any mutual connection. It may be assumed therefore that Vālmiki worked up these legends into a single homogeneous production.

The second part consisting of the abduction of Sītā by Rāvaṇa, Rāma's conflict with Rāvaṇa and the recovery of Sītā may be, as held by Prof. Jacobi, an allegorical rendering of a Vedic myth. The *Uttara Kāṇḍa* is a

* *Bāla Kāṇḍa*, I—66.

† *R. V.*, X—60—4. ‡ *R. V.*, X—93—14, etc.

later supplement and there is nothing to show that it has any historical or allegorical basis.

The late Mr. R. C. Dutt, in his valuable digest of the critical researches of Western Sanskritists, goes further than the latter and holds that as in the Mahābhārata so in the Rāmāyaṇa the heroes are *myths pure and simple*. When cultivation gradually spread towards Southern India it was not difficult to invent a poetical myth that Sītā, the Ṛigvedic field-furrow, was carried to the South and when she had acquired a lovely individuality she was naturally described as the daughter of the holiest king on record—Janaka of the Videhas. It is not an untenable conjecture that Rāma, like Arjuna of the Mahābhārata, is a new edition of the Ṛigvedic Indra battling with the demons of drought.

Though thus, according to him, the poem is utterly valueless as a narrative of events still, like the Mahābhārata, it throws sidelights on the state of society in ancient India, though as a picture of life the Rāmāyaṇa describes a state of society *long posterior* to that depicted in the Mahābhārata. For we miss in the former the fiery valour and the proud self-assertion of the Kshatriyas of the Mahābhārata; and the subordination of the people to the priestly yoke is more complete than in the latter. The heroes of the Rāmāyaṇa are somewhat tame and commonplace personages, very respectful to priests—that abomination of the modern non-brāhman—doing a vast amount of fighting, mechanically but without the determination, the persistence of real fighters. For a picture of Hindu life of the fourteenth and the thirteenth centuries B.C. one should go to the Mahābhārata. For a picture of Hindu life of the tenth century B.C. by which time a change had come over the spirit of the nation, when the princes and the people had become enervated and submissive to the priestly yoke, one should refer to the Rāmāyaṇa!

Sanskrit literature has, however, in the main, been content to accept the poem, as it declares itself to be, a picture of historic events, painted with the poet's mind. Some Indian scholars see a reference to the chief incidents of the poem in the Ṛigveda,* where it is said “Bhadra, accompanied by Bhadrā, went away. A gallant then went after the accompanying spouse. Then Agni, with his bright flames, covered Rāma with glory”—meaning “Ramabhadra, accompanied by his auspicious (bhadrā) spouse, went into exile. Then a gallant—Rāvaṇa—went after and took away the lovely Sītā. Then Rāma, with the aid of Agni, the first god of the Vedic cult, covered himself with undying glory by the recovery of Sītā and the firm establishment of Vedic dharma.”

* R. V., X—3—3. Sāyaṇa, however, makes no reference to the allusion.

Rāma-tāpini Upanishad (pūrvā) gives a brief sketch of Rāma's life and relates the incidents as historical facts. In the *Vana-parvan* * of the Mahābhārata, Mārkaṇḍeya relates the narrative of Rāma's life to Yudhiṣṭhira to illustrate the truth that great and good men, gods incarnate as men, had before him lived and suffered on earth. The narration would have no force if it were not believed to be historical. Even the *Adhyātma-Rāmāyaṇa* (in the Brahmāṇḍa Purāṇa) gives the life of Rāma as a historical personage, before proceeding to show how the incidents of his life could be made to illustrate Vedantic principles. Kālidāsa, in his *Raghuvamśa* (sargas X—XV) relates the life of Rāma as Nārāyaṇa who *actually* incarnated on earth and lived the life of an ideal man, to show men how to live under trials and difficulties. There are hundreds of poems, dramas and other works about Rāma in Sanskrit literature written from before the Christian era down almost to modern times and there is nowhere to be seen in them any suspicion that Rāma and Sītā are Vedic myths transformed into an allegory by the creative ingenuity of an Indian poet. The preface to the poem, which in the existing recensions forms the opening portion of the epic, expressly states that Vālmīki wished to know from Nārada whether there was, at that time, any ideal man *actually living* on earth and Nārada forthwith proceeded to describe Rāma as a personage actually living at the time and answering to the ideal. Rāma, Ikshvāku and Dasaratha are names of mighty kings mentioned in the Ṛigveda; Vasishṭha, Visvāmitra, Agastya and Bharadvāja are the names of the most distinguished Ṛishis of the Ṛigveda and seers of Vedic hymns. There is not the slightest evidence to presume that the poet Vālmīki has constructed a romance, an unalloyed fiction, out of these historic names. Janaka is a family name of the kings of Mithilā,—rulers noted for their piety and learning; there is nothing in the poem to indicate that the foster-father of Sītā is identical with the philosopher-king Janaka, who was the patron of the profound thinker Yājñavalkya. On the other hand, all Indian tradition, from the Mahābhārata downwards, expressly states that Yājñavalkya and his patron Janaka were *pupil-descendants* of Krishṇa Dvaipāyana Vyāsa, the contemporary of the Bharata war; while rulers like Rāma and the father of Sītā and seers like Visvāmitra and Vasishṭha lived at a far, far earlier epoch.

Prof. A. B. Keith, among others, has contended that Pāṇini has not mentioned the names of any personages of the Rāmāyaṇa as he would have done if the poem had existed in his time, while he has explained the names of the historic personages of the Mahābhārata. But if names like Ikshvāku, and Rāma are, as already noted, names that occur in the Ṛigveda itself,

* Adhy. 272—291,

Pāṇini's omission cannot affect the historical character of those personages. But as a matter of fact Pāṇini does explain the formation of many names that are materially connected with Vālmīki's epic. Pāṇini's Sūtras IV—1—15 and IV—1—171 explain Kosala and Kausalya; Sūtra VII—3—2 and his own *gaṇa* (not simply *ākṛiti gaṇa*) under IV—1—178 explains Kekaya, Kaikeyī and Bharata. The *gaṇa* under IV—1—112 explains the words Vaiśravaṇa and its *adeśa* Rāvaṇa. The *gaṇa* under III—1—184 explains the form Vibhīṣhaṇa; that under IV—2—138, Vālmīki. Pāṇini was thus familiar with the kingdoms and the heroes figuring in the Rāmāyaṇa and there is nothing to show that he considered the kingdoms alone to be *actual* and the heroes to be mere names in a fiction.

Again it is urged that references to Parikshit, Janamejaya, Vaiśampayana, and others, connected with the Mahābhārata are to be found in the *Śatapatha* and other *Brāhmaṇas* but there are no such references in these works to any personages figuring in the Rāmāyaṇa. To this the obvious reply would be: the *Śatapatha* and the other *Brāhmaṇas* that we now have are the latest of their kind, composed, as both tradition and internal evidence show, a short time after the Bhārata war, when the grandsons and the great-grandsons of the Pāṇḍavas were still ruling and the pupils and the pupil-pupils of Vyāsa—the progenitor of the Bhārata heroes—were living as the acknowledged teachers of the land. So there is nothing surprising if these names are to be found there. So would it be with the Rāmāyaṇa if we had *now* the earlier *Brāhmaṇas* and other works that might have been composed not very far from the time when the main incidents of the Rāmāyaṇa took place. But unfortunately those works are lost. Where, for instance, are the Itihāsa-purāṇa, gāthās, narāśamsās (histories in praise of heroes) mentioned in the *Śatapatha Brāhmaṇa* (XI-5-6-1) and the *Taittirīya Āraṇyaka* (II-9)? Where indeed are the older *Brāhmaṇas* and Kalpas referred to by Pāṇini in IV-3-105? Where are the grammatical works of the predecessors of Pāṇini (who mentions sixty-four of them)? Where, again, are the works of the writers, belonging to the several schools of Vedic interpretation, referred to by Yaska who lived about 500 B.C.? Even Sāyaṇa, who lived in the fourteenth century A.D., quotes from Upanishads and other works which are not to be found now. Even in these days of cheap and almost universal print, books come out of the press still-born; a great many die beyond redemption. In most cases, the death is deserved; in a few cases, the fittest replace the less fit; it may be that in a few others, age tells and things good enough in their time give place to younger offshoots. So it must have been with the Itihāsa-purāṇa and narāśamsās which, we *know*, once existed and which have been devastated by the Hun-like horde of existing Purāṇas.

Of course we shall have to make the necessary allowance for the imagination of a first poet; some allowance will have also to be made for the *deus ex machina*, which the setting of an epic may require; a great deal more will have to be allowed for the later additions by redactors with a grosser taste and a relish for the marvellous and the exaggerated; and when these allowances are made, it may be safely asserted that there is nothing in the epic to justify distrust of the unanimous tradition of Indian literature that the main events of the Rāmāyaṇa are historical.

Secondly with regard to the approximate date of the original poem—I say *original*, because the researches of Prof. Jacobi have made it abundantly clear that the original poem of Vālmīki consisted of five kāṇḍas (II—VI), with a small portion of the first kāṇḍa, beginning with “कौसलोनाम” etc., in I-5. But of this by-and-by.

Weber held that the poem must have been composed about the commencement of the Christian era. For these reasons: There is a Buddhist work in Pāli, known as Jātaka—tales relating the previous births which Buddha is supposed to have passed through. In this work there is a tale called *Dasaratha Jātaka*, which narrates the *early* adventures of Rāma. There is a Pāli verse in this tale, which runs—

“*Dasa vassasahassāni . . . Rāmo rajjam akārayi.*”

Now there is a sloka in Vālmīki's Rāmāyaṇa (*Yuddha Kāṇḍa*, s. 131) which closely resembles the Pāli verse—‘*Daśavarshasahasrāṇi—Rāmo rājyam akārayat*’. Weber holds, as Lüders does later, that the Pāli verse is the original and that Vālmīki is indebted to the Pāli poem. Vālmīki must have lived in an epoch when the operation of Greek influence had already set in in India and must have been therefore acquainted with the conceptions of the cycle of Trojan legends. To the materials borrowed from the Jātaka tales he must have added materials taken from the rape of Helen and constructed an epic poem!

The late Mr. K. T. Telang wrote a vehement rejoinder in 1873, under the title ‘Was the Rāmāyaṇa copied from Homer?’ Weber would not be convinced. What business had an Indian poet to claim originality or a far-off antiquity?

Fortunately saner views are now prevailing. Professor Jacobi has shown that Vālmīki's poem is the source of the Pāli verse in the *Jātaka*. Professor A. B. Keith also is of opinion that the *Buddhist Jātaka* is of unknown date and is, without doubt, a later attempt to turn the Rāma story to serve the ends of Buddhism.

In this connection it may be added that some Western Sanskritists hold that the Rāmāyaṇa is a veiled attack on Buddhism, that it is due to a

Brāhman *revision* in which the wily Brāhmins intended to transform in priestly interest a poem originally meant for the warrior caste; *et hoc genus omne* !

Professor Hopkins of America is of opinion that the Rāmāyaṇa has not merely a more refined type of *Śloka* than the Mahābhārata but also a later type, equivalent to that of the 'pseudo-epic'. This type cannot be earlier than the second century B.C. The Mahābhārata was at first a poem in praise of the Kaurava princes; it was in a large measure redacted in the Pāṇḍava interests, probably in Pāṇchāla, where the Pāṇḍu family was popular. 400—200 B.C. is most probably the period when the first Pāṇḍu version of the Mahābhārata was redacted and as the language and the metre of the Rāmāyaṇa show a more advanced stage than the *Pāṇḍavite Bhārata*, the Rāmāyaṇa cannot well be earlier than the second century B.C.

Professor A. B. Keith thinks that works like the *Bṛihad-devatā* and the *Rig-vidhāna* which belong to the fourth century B.C., show a similar form of metre to the Rāmāyaṇa. Vālmiki's epic must therefore be assigned to the fourth century B.C. 'With this date accords adequately the fact that Pāṇini does not happen to cite the name of a personage of the Rāmāyaṇa, as he would very possibly have done had the great work* of Vālmiki existed in his time.' Professor Keith is of opinion that Hopkins' view that the metre of the Rāmāyaṇa indicates a later date than that of the second or Pāṇḍu version of the Mahābhārata has not much force, as the Rāmāyaṇa (that is, the original portion of it) is the work of a single author, who introduced a more refined and elegant style of metre. Again, the Rāmāyaṇa is clearly known to the second version of the Mahābhārata, whereas the latter is recognized only in the *addenda* to the original Rāmāyaṇa. On the whole, says Professor Keith, there is no reason to go below 300 B.C. for the kernel of the Rāmāyaṇa, while with regard to the final date of the completion of the Rāmāyaṇa with the first and seventh books general probabilities suggest that the second century B.C. saw most of the work complete.

Professor Jacobi holds that the original Rāmāyaṇa (*i.e.*, Kāṇḍas II—VI) may belong to the sixth century B.C. The following is a summary of his main arguments:—(1) No mention is made here of the city of Pāṭaliputra, which was founded, as we know, by King Kālāśoka, under whom the second Buddhist council was held at Vaiśālī about 380 B.C. As Pāṭaliputra had become the capital city of India by the time of Megasthenes (300 B.C.), the epic, if later than 380 B.C., could not have ignored this capital city, especially so, as Rāma is (Kāṇḍa I—s. 35) described as passing the very spot where the city stood and as the poet makes a point of referring to the *foundation* of

* This objection has been already met.

a number of cities in Eastern Hindustan, such as Kausāmbi, Kanyākubja and Kāmpilya. (2) Mithilā and Viśāla are spoken of as twin cities under separate rulers, whereas by Buddha's time they had coalesced into the famous city of Vaiśālī. (So even the later Kāṇḍa I must be earlier than 500 B.C.) (3) The capital of Kośalā is invariably called Ayodhyā in the Rāmāyaṇa, while by the time of the early works of the Buddhists and Jains, of early Greek writers and of Patanjali (*Mahābhāṣya*) the name Ayodhyā had been replaced by that of Sāketa. (4) By the time of King Prasenajit, contemporary of Buddha (500 B.C.), the capital of Kośalā had been transferred to Srāvaṣṭi. (5) In the *Āraṇya Kāṇḍa* (XVI—12) it is stated that at that time the asterism Pushya marked the time of night about the winter solstice. Pushya was in the sky from the beginning to the end of the night at the winter solstice in the seventh century B.C. Professor Keith contends that the expression पुष्यनीताः in this context is vague; even granting that Professor Jacobi's interpretation is the correct one, there is no compulsion to assume that this notice cannot be a traditional one. (6) The portents described in the same Kāṇḍa (sarga XXIII) as having occurred at the encounter of Khara with Rāma, including the seizure of the sun by Rāhu when there was no *parvan* indicate a total eclipse of the sun which could have taken place only in the eighth or the sixth century B.C. Professor Keith objects to this inference on the ground that it is a gratuitous assumption that only a total solar eclipse could explain the description. (7) The political conditions described in the Rāmāyaṇa indicate the patriarchal rule of kings possessing only small territories; this is a much earlier state of things than the one described in the Mahābhārata, where a great part of Eastern India, besides Magadha, was under the powerful king Jarāsandha. Professor Macdonell adds, "The cumulative evidence of the above arguments makes it difficult to avoid the conclusion that the kernel of the Rāmāyaṇa was composed before 500 B.C., while the more recent portions were probably not added till the second century B.C. and later."

Western scholars, as a rule, are averse to carrying the antiquity of Indo-Aryan civilization beyond 2000 B.C. It remains to be seen how far the recent excavations in Sind will influence them to modify their views, presuming that these discoveries will throw light not only on Dravidian antiquity but also on Indo-Aryan culture. I have endeavoured, in the pages of the *Mythic Quarterly Journal*, to show that the latest, that is, now extant, Brāhmaṇas contain evidence to prove that their age must lie between 2000 and 3000 B.C. The age of the latest hymns of the Ṛigveda must go further back. Ikshvāku, Rāma and Dasaratha are mentioned in the tenth maṇḍala of the Ṛigveda, which, all unprejudiced scholars will concede,

contains the latest hymns of the Ṛigvedic period. Vālmīki is also described as a *mantrakṛit** or Vedic seer and contemporary of Rāma. The poem must, according to this tradition, be assigned to the close of the Ṛigvedic period. The arguments adduced by Prof. Jacobi, except (5) and (6), to which objection has been taken, only go to show that the kernel of the poem cannot be later than 500 or 600 B.C. When and if a time should come when Western Sanskritists will feel bound to stretch the limits of the Vedic *Strata* much further back than they are now inclined to do, the date of Rāma, Vālmīki and the Rāmāyaṇa will naturally be pushed back, far beyond the 600 B.C., which one or two liberal-minded scholars have now conceded. Meanwhile, all that can be said is that according to Indian tradition, the work should be assigned to the same period as that of the latest hymns of the Ṛigveda.

To this philology may interpose some difficulties. The first is that the ārsha dialect of the poem, 'practically the same as that of the Mahābhārata' betrays a stage of development later than that of Pāṇini and that Pāṇini does not notice these ārsha peculiarities. Prof. Macdonell thinks that this is no difficulty. For Pāṇini deals only with the refined Sanskrit of the *Śiṣṭas*, whereas the Rāmāyaṇa is written in the popular dialect of wandering minstrels. Now by the time of Aśoka this popular dialect of the rhapsodists had become modified into Prākṛit, to such an extent that the language of the Rāmāyaṇa, which was evidently intended for the ordinary people, would be ill-understood by the people at the time of Aśoka (250—300 B.C.). It is therefore not at all likely that the Rāmāyaṇa which aimed at popularity should have been composed as late as the time of Pāṇini (fourth century B.C., according to Macdonell, etc., and ninth century B.C. according to Goldstücker). Again, if the Rāmāyaṇa were later than Pāṇini it is difficult to see how it escaped the dominating influence of his grammar.

The Rāmāyaṇa itself (*Sundara Kāṇḍa*, s. XXX) speaks of two varieties of Sanskrit which were in vogue at that time—one *mānushī samskrītā*, the popular dialect and the other, *Samskrītā dvijātir iva*,† the language spoken by the cultured Brāhmaṇs, the *Śiṣṭas* (which alone Pāṇini has recognized in his grammar as *bhāṣā* as contrasted with *chhandas* or the Vedic language). Hanumat was a cultured linguist and could speak in both varieties; but fearing that he might be misunderstood if he spoke the language of the *Śiṣṭas*, he spoke in colloquial Sanskrit, the language of the Rāmāyaṇa as it was of the Aryan ladies. As Prof. Keith writes‡ "The epic speech is undoubtedly in a more advanced stage of development than Pāṇini's *Bhāṣā*, but it is a

* *Raghuvamśa* (XV—31) for instance.

† *Vide* the Commentaries of Tilāka, Maheśvara Tīrtha and Govindarāja.

‡ *J. R. A. S.*, 1915 (p. 319).

perfectly reasonable view that it could be contemporaneous with it and represent the speech of a different class of people.....it has a very striking support in the soliloquy of Hanumat when he deliberates whether to address Sītā in speech which is *mānushī* and *samskṛitā* or to speak in *Samskṛita* speech *dvijātir iva*. It is impossible to avoid the conclusion that here we have a plain contrast between the Sanskrit of men generally and of the Śiṣtas; both are expressly called *samskṛitā* and therefore it is impossible to see in the first a Prākṛit speech, nor is such a speech ever mentioned in the epic."

Another difficulty is that the language of the Rāmāyaṇa is less archaic than that of the existing Brāhmaṇas and so the epic cannot be said to be earlier than the latter. But Western Sanskritists like Prof. Keith have conceded that 'the Vedic period had a contemporaneous literature of a popular character, though little of it is preserved in the texts'. This popular literature must have been the colloquial language of the people—less refined than the Vedic dialect or Chhandas. The Rāmāyaṇa, meant for the ordinary people, must have been written in this popular dialect; and the diction of this most popular poem must have been not a little affected, in the course of ages, by the constant wear and tear of popular usage and its frequent repetition by wandering bards and minstrels.

The metrical refinement and elegance of the Rāmāyaṇa, as compared with the anusṭup of the Ṛigveda, which itself has more than 800 stanzas in this metre, have been acknowledged to be due to the genius of a single author 'who introduced a more refined and elegant style of metre'.*

Now with regard to the third point, what constituted the original poem? Here Western critics are on firmer ground. As Prof. Jacobi has shown, the original poem comprised Kāṇḍas II to VI, with a small portion of Kāṇḍa I. The *Uttara Kāṇḍa* appears to be a later supplement. For these reasons: (1) The *Yuddha Kāṇḍa* closes with a *phala-śruti*, which would be certainly out of place if it were not meant to be the end of the poem. The poem appears to end with दशवर्षसहस्राणि दशवर्षशतानि च । भ्रातृभिःसहितः श्रीमान् रामोराज्यमकारयत् ॥ (VI—131-101). Then the *phala-śruti* by a later admirer follows, which expressly states that आदिकाव्यमिदन्वार्षं, पुरा वाल्मीकिना-कृतं ('this, the first epic poem composed in ancient time in archaic language by Vālmiki'). The *Uttara Kāṇḍa* has a separate *phala-śruti*, the last sarga (101), as if this kāṇḍa were a separate work. Here the words 'एतदाख्यानमायुष्यं

* Prof. A. B. Keith. *Vide* also Tryambaka Makhi's Comments (Vol. I, p. 25), Vāni-Vilāsa Press, Srirangam).

सभविष्यं सहोत्तरं कृतवान् etc.' (Vālmiki) the son of Prachetas composed this narrative conferring long life, including the future events * of Rāma's life and including the *Uttara Kāṇḍa*, 'smack of 'protesting too much'. The closing sloka of I—3 'अनागतं च यत्किचिद्रामस्य वसुधातले । तच्चकरो तुरेकाव्ये वाल्मीकिः etc.' speaks of *Uttara Kāvya* as if it were a separate work (though as an orthodox preface it will not deny Vālmiki's authorship of this supplementary Kāvya also). (2) The sargas of the first six Kāṇḍas end thus : इत्यार्षे श्रीमद्रामायणे आदिकाव्ये वाल्मीकिः...सर्गः । whereas in the *Uttara Kāṇḍa* the ending of the sargas is indicated simply by इत्युत्तरश्रीरामायणे...सर्गः । Of course these endings are by later hands ; but it shows all the same that the later redactors had some distinction in view. (3) The *Rāmopākhyāna*, in the Mahābhārata ends with the coronation* of Rāma after his victory in the conflict with Rāvaṇa and does not allude to his renunciation of Sītā and the sequel, though there incidents would be even more pertinent to the aim of Mārkaṇḍeya. It is to be noted in this connection that this *Rāmopākhyāna* is based on Vālmiki's poem, as it contains several verses agreeing more or less with Vālmiki's lines. The reader will also easily notice that the episode in the Bhārata presupposes in the reader a knowledge of the original poem of Vālmiki. The *Rāmataṭpini Upanishad* similarly closes with Rāma's return and coronation and makes no reference to any of the incidents of the *Uttara Kāṇḍa*. (4) Kālidāsa, while including the incidents of the *Uttara Kāṇḍa* in his *Raghuvamśa*, states that Vālmiki's poem was composed while yet Sītā, with her twin sons, were living with him in his hermitage. His making no reference to Vālmiki's inclusion of *bhavishya* events might be understood as implying that in his opinion the 'Uttara Kāvya' was a subsequent supplement. It may in these circumstances be presumed that the *Uttara Kāṇḍa* was a later addendum—later than the *Rāmopākhyāna* of the Mahābhārata and far earlier than Kālidāsa.

Even in the genuine Kāṇḍas II to VI there are many passages which betray later hands. Repetitions, due to clumsy digressions, can be easily detected by all impartial critics. Kataka, an early commentator, has noticed several passages as *prakshipta* (foisted). As observed by Professor Jacobi, these additions have been for the most part 'so loosely attached that the junctures are easy to recognize, though they are pervaded by the same spirit as the older part'. I have tried to show † that the passage containing the horoscopes of Rāma and his brothers could not have been inserted earlier

* The employment of the preterite tense in the *Uttara Kāṇḍa* in the description of the *bhavishya* events offers no difficulty to orthodox ingenuity.

† *Mythic Quarterly*, Vol. XII, pp. 73-75.

than the fifth century A.D. as the solar signs starting from Revati could not (mathematically speaking) have come into existence earlier. So the passages referring to Buddha (II—109-34), to Yavanas, Śakas and Pahlavas (1-44), to the Andhras, Paṇḍras, Cholas, Pāṇḍyas and Keralas, to the Kāveri and the Tāmaparṇi, to Kavāta, once the capital of the Pāṇḍyas* (IV-41) will strike all impartial minds as later interpolations.

Moreover, the Rāmāyaṇa exists in three different recensions—(1) that of the north-west provinces, (2) that of Bengal and (3) that of Bombay, mostly identical with the South India recension. 'About one-third of the ślokas in each recension occurs in neither of the other two.' They either follow a different arrangement or differ materially in expression, though the subject-matter dealt with is almost the same. In Act VI, *Uttara-Rāma-Charita*, Bhavabhūti puts into the mouth of Kuśa two ślokas expressly stated to be from Vālmīki's Rāmāyaṇa. These two ślokas are not found in the *grantha* recension, where two other ślokas, similar in meaning though less poetical in expression, are to be found. What is even more strange to us is that Bhavabhūti talks of *adhyāyas* of the Rāmāyaṇa (बालकाण्डस्यान्तिमेऽध्याये) and not of *sargas*. Perhaps the Kāṇḍas of the Rāmāyaṇa are, in some recension, divided into *adhyāyas* instead of *sargas*. It is worthy of note that the Bombay or South India recension is more ārsha (archaic) than the others, in which the ārsha peculiarities have been removed under the influence of the Vaidarbha and the Gauḍa styles of composition, long current in those parts.

These three recensions should be carefully collated and compared. Some passages, like the one containing the horoscopes of Rāma and his brothers, are not to be found in the other recensions. It may be presumed that the ślokas common to all the existing recensions are Vālmīki's own. All the available old manuscripts of the different recensions must be collected and carefully compared. All the available commentaries† also should be collected and studied. A *parishad* of erudite and liberal-minded paṇḍits must be set to this work, under the superintendence of Sanskrit scholars who must be deeply read in Sanskrit (Pūrvamīmāṃsā especially) and must also possess a thorough acquaintance with the critical and comparative methods of the West and

* Misunderstood by commentators unacquainted with Tamil literature, as in the case of 'द्रविड-शिशु' in *Saundaryalahari*.

† Tryambaka Makhi, who lived at Tanjore, minister of Shaji and Sarfoji (1700 A.D.), has compiled a summary from the Rāmāyaṇa, with comments of his own. This is a beautiful work and will be greatly helpful in bringing out a critical edition. Mr. T. K. Bālasubrahmanya Aiyar of the Vāṇi-Vilāsa Press, Srirangam, has published some Kāṇḍas of this work. It is hoped he will complete this work and earn the thanks of the students of Sanskrit.

the results of their researches ; and a critical edition of the Rāmāyaṇa should be brought out, embodying the results of these labours. Then alone will be possible a really valuable criticism of this great work.

Thanks to the initiative of the First Oriental Conference at Poona, a work of this kind has been undertaken with regard to the Mahābhārata, a patriotic Rājā in the North having donated four lakhs of Rupees in aid of the undertaking. The Rāmāyaṇa is held in even greater reverence among us and is more widely read and treasured as a sacred book. The cost of such an undertaking will come to but a fourth of the sum required for the Mahābhārata and the time required may not exceed a year. Will the leaders of Hindu society take up this work ? May the Higher Powers will it so !

THE SRINGERI MUTT.

By K. RAMAVARMA RAJA, ESQ.

DR. R. P. PARANJPYE as the worthy Chairman of the Fifteenth Annual Meeting of the Mythic Society, laid special stress on the importance and usefulness of "the detailed and scientific study of the names of places by which much can be learnt of the history of the country, especially in a country like ours, where regular historical literature hardly exists". Again, in a large continental country like India, a comprehensive and original historical survey or research is beyond the means and capacity of any single scholar, however well-equipped he may be. Hence independent local and topical studies have to be made and pursued, and their results critically scrutinized, carefully collaborated, pieced together and consolidated later on when a continuous history becomes available. V. A. Smith, the author of "The Early History of India", seems to have felt this drawback or defect in the South Indian History when he wrote as follows:—"But until specialists intimately acquainted with the languages and local conditions shall have worked out detailed monographs for each dynasty, it will not be possible to compile an adequate early history of the southern kingdoms in a form suitable for inclusion in a volume dealing with India as a whole" (p. 448, 3rd Edn.). And only some "disjointed notes were all that he was in a position to offer as a contribution to the early history of the Chera or Kerala Kingdom" (p. 45). This is perhaps a long and unnecessary introduction to the present study.

The holy site called Sringeri is said to have been named after the sage or hermit Rishyasringa who is well-known to the readers of 'Ramayana'. "A student" in the course of a long letter to "The Hindu" of July 21, 1925, on 'Indian Astrology', seems to question the truth or probability of this traditional derivation the source of which, according to him, is the second "*Sankaravijaya*" a later production falsely attributed to Anandagiri, one of Sankara's four disciples, to advertise it as more authentic and reliable than Vidyaranya's "*Sankaravijaya*" which is the accepted true account of Sankara's life and work. He says:—"It is this same Anandagiri's 'Vijaya' that brings down Rishyasringa, Ganga and Champa in the Angas, to Sringeri Tunga and Narve in the Mahishamandala, and the story of Rishyasringa, dancing girls and all is acted once a year in the Sringeri Jagir under the auspices of the Sringeri Mutt." Mr. A. R. Slater in his long paper published in an earlier issue of the same Madras daily, dated 30th

April 1924, notes this traditional origin and gives other descriptive details including a hill shrine containing the self-born or self-revealed *lingam* known as *Mallikarjuna* which suggests another origin and derivation and they are given below.

This '*lingam*' known as '*Mallikarjuna*' is one of the twelve celebrated luminary ones (*Jotir-lingams*) scattered here and there all over India from the Himalayas to Rameswaram. It is located on Sri-Saila (श्री शैले मल्लिकार्जुनम्). Where is then Sri-Saila situated? This question may be answered by a reference to the early accounts of travels or pilgrimages given in the ancient Indian works. On the eve of the great Bharata War, Balarama, the elder brother of Sri Krishna, is said to have started on a long pilgrimage lasting twelve months in expiation of the sin of having killed Sūta Rōmaharshana engaged in reciting the Puranic texts or narrating such stories or expounding the sacred lore in the sacrificial assembly of the Rishis. In course of this holy tour he visited *Skanda* and thence went to Sri-Saila where the God Siva dwells, i.e., where there is a shrine dedicated to Siva ("स्कंदे दृष्ट्वा ययौ रामः श्रीशैलं गिरिशालयम्", *Bhagavata Purana*, X—79-13). In the commentary of Sridharaswamin, 'श्रीशैल' is rendered and explained as 'श्रीपर्वत'. The latter is enumerated in *Sūta-Samhita* (Sec. 4, Pt. 1, Ch. 29, Verse 82) as a holy site dedicated to Siva (शिवस्थान). Thus the Sri-Saila of the *Bhagavata Purana* seems to be identical with the 'Sri-Parvata' of *Sūta-Samhita*. Further, it would appear from the *Bhagavata* passage that Sri-Saila is situated not far away from *Skanda* which evidently refers to the famous holy shrine of 'Subrahmanya' situated in the high range dividing Mysore from S. Canara. For the previous halt or station on our divine pilgrim's route was on the Bhimarathi which is a tributary of the river Krishnā at its higher level. From Sri-Saila the pilgrim proceeded next to Venkatagiri, i.e., the celebrated temple of Tirupathi, I suppose. Reference has already been made to Mr. A. R. Slater's paper on 'Sringeri Mutt' from which it would appear that this holy shrine of the self-born or self-revealed '*lingam*' is now included in the present and modern Sringeri premises.

From the brief account given above one would be inclined to surmise that the modern place-name Sringeri is only a corrupt form or variant of *Sri-giri* which again is identical with the *Sri-Saila* or *Sri Parvata* of the Puranas, *Giri*, *Saila* and *Parvata*, all being Sanskrit synonyms, and the hill shrine of Mallikarjuna, once in days of yore, was, no doubt, a very famous and important holy place of pilgrimage and worship, which Sri Sankaracharya found later on a very suitable site for an Advaita school and monastery in course of his long tour of philosophical controversy and religious

reform-propaganda. A word more has to be said here in my attempt to explain the intrusion of the letter *n* in the middle of the word *Sringeri*. The original name, of course, was *Sri-giri* which might have been enlarged as *Sri-mad-giri* or *Sri-mal-giri* and this subsequently became shortened or corrupted into *Sri-mgiri*, and so gave rise to *Sringeri* in the local and vernacular parlance. Hence arose the Rishyasringa legend above alluded to.

This interesting investigation has not yet been completed, but the materials available have all been exhausted. So I conclude this paper with the following quotation of a Sanskrit verse which gives more details about the '*Mallikarjuna lingam*' which I am not in a position to work out and which are therefore left to the local experts to work out to complete the investigation already started :—

“श्रीशैलसंगे विबुधानिसंगे तुलाद्रितुंगेऽपि मुदा वसंतम् ।
तमर्जुनं मल्लिकपूर्वमेकं नमामि संसारसमुद्रसेतुम् ॥”

SEA-POWER IN EARLY SOUTH INDIAN HISTORY.

BY PROF. S. V. VENKATESWARA, M.A., L.T.

SOUTH INDIA has had active intercourse with the West from prehistoric times. Recent excavations in Sindh and the Punjab have disclosed a striking similarity between Indian relics and those of Susa and Babylon of about 3000 B.C.¹ Among these antiquities are pottery, blue glass bangles, and seals with inscriptions in a pictographic script. Years ago, Dr. Hornell² identified cups and bangles of India among the ruins of Susa and Lagash. Prof. Elliot Smith is clearly of opinion that the skulls from the urns of Adichanallur are of early Egyptian type, having the same cephalic index as those of the Veddahs of Ceylon. Both Prof. Smith³ and Mr. Perry⁴ have accepted connection between India and Egypt from B.C. 2600. Prof. Flinders Petrie concludes that the Predynastic Egyptians should have migrated from Elam in Western Asia, from a study of the shape of the skulls; and Mr. Hall⁵ considers that the ancient Sumerians of Babylonia may be a branch of the Dravidian race which migrated there "certainly by land, perhaps also by sea". Connection with Minoan culture appears to be indicated by the incised marks and symbols on the prehistoric pottery unearthed from Hyderabad.⁶

There is abundant evidence that this connection was maintained through the subsequent ages. The Egyptian mummies recently excavated were wrapped in blue cloth, apparently dyed with Indian indigo. The oblong terracotta sarcophagi on short legs dug up at Pallavaram and now in the Madras museum are identical in shape, size and material, with the coffins discovered near Baghdad, and with the ancient Etruscan coffin-tombs.⁷ The earliest Etruscan hot-urns resemble the latest forms of those discovered in South India. That the system of urn-burial was in vogue in South India is clear from the references to it in the *Ramayana*,⁸ and in the works of the Sangam period like the *Purananuru*⁹ and the *Manimekhalai*.¹⁰ Pausanias mentions the discovery, in the Orontes, of an Indian coffin 11 cubits long, as

1. *Illustrated London News*, Sept. 23, 1924.

2. *Marine Geology of O Khamandal*, Pt. 2, p. 208.

3. *Ancient Mariners* (Geographical Journal, 1917).

4. *Children of the Sun*, (p. 560).

5. *Ancient History of the Near East*, pp. 173-74.

6. *Hyderabad Archaeological Report* for 1918.

7. Bruce-Foote: *Prehistoric Antiquities*.

8. *Balakanda*.

9. *Puram*, 228.

10. *Kathai*, 23.

among the antiquities of his time. As Caldwell showed long ago, the Hebrew word *Tuki* (Peacock) can almost certainly be derived from the Tamil *tohai* and the word *ahalim* (red wood) from *aghil*. Apes and elephants figure on an obelisk of Chaldean III of Assyria (ninth century B.C.). As regards the exports of clothing, which had 'variety of dyes' according to Aristobulus. South India had its own contribution. The *Mahāvamsa*¹¹ speaks of 'garments of five colours', and 'yellow stuff for napkins', and the 'Naga stuff coloured like the Jasmine blossom and without a seam'.

This commerce was carried on mostly by sea. If it had been along a land-route, as some scholars have supposed, we should have had intermediate links in the chain connecting India with Egypt and Babylonia. But such evidence as we have points to direct connection with these countries, as with the Roman Empire in later times. Let us take, for instance, the words for 'rice' a principal and bulky article of export. The Tamil word is *arisi* (rice without husk), Arabic *Al-razz*, and Greek *Oryza*; while the Sanskrit word is *vrihi* and the Persian *Virinzi*. It is clear that the Græco-Roman world got rice, with the husk removed, directly from South India, by sea through Arabia; the Persians apparently got it from Hindustan. If the Greeks and the Arabs had got it through North India and Persia, we should have the Greek word approximating more to *vrihi* than to the Tamil *arisi*. Rice is native to Burma, India and China. It was known in China as early as 2800 B.C., and there is no reason why the cultivation of rice in South India cannot claim a similar antiquity.

Dr. Caldwell¹² held that "the Dravidians, though they had decked coasting vessels, had no acquaintance with any people beyond the sea, except in Ceylon." It was a fashionable doctrine that ancient empires had "an invincible horror of the water" and that "in the Indian Ocean the Arabians were the principal carriers". Egyptian exploration has revealed the unsoundness of this doctrine and established that there were ships as early as the Third Dynasty, trading to Phœnicia at least from the Sixth Dynasty, with trading settlements along the Red Sea coast from the Twelfth Dynasty; and that the ship-building was stimulated by contact with Syria as early as the First Dynasty. The Egyptian ship, as we see from a Fifth Dynasty painting, was very like the Indian, a long and wall-sided vessel with the stem and stern highly raised, and with oars arranged in banks. The intimate connection of India with Egypt implied in this is supported not only by resemblances in the structure of the skull already mentioned, but by cultural considerations such as the worship of the sun and the falcon, and the bull, and the matriarchal system of succession to property. Among the dubious references to India in

11. Chap. V. (*Glezer's Trans.*, p. 28.)

12. *Comp. Grammar*, p. 113.

Egyptian records I find one which, to my mind, cannot be explained without reference to India. We are told that the coasts of the Arabian Sea witnessed beings, 'half human, half fish'.¹³ In the story of the shipwrecked sailor,¹⁴ the hero goes to sea in a ship, and is wrecked on a desert island inhabited only by a huge snake monster. The snake deals kindly with him, and foretells the arrival of a ship, on which he departs to Egypt loaded with gifts from his strange host. One cannot fail to be reminded of our own stories, in Epic, Puranic and Buddhist literature, of the Nagas of prehistoric India, who are depicted in early Buddhist sculptures exactly as described in these Papyri. The Tamil work, *Maṇimekhalai*,¹⁵ has a story of a shipwreck, the same as here in essential details. This work as well as the *Periplus* mention Indian voyages from the Malabar coast to the Eastern archipelago.

II

Though South India was thus in intimate connection with the West and with the East, the development of her navigation appears to have been largely indigenous and independent. It is true that a few details were borrowed. One is strongly reminded of the eyes on the bows of Indian boats which are now there merely for decoration, but which in ancient Egypt portrayed the eyes of Osiris. But the main evolution of the art was characteristically Indian. The word for 'oar' appears to have been *harigolu*—'a stick used to propel (a float) across a current,' which in later Dravidian came to denote a coracle which was so propelled. The Dravidian paddle (*Chattakam*) was round or circular, and not spade-like in form as in ancient China, or very long as in ancient Egypt. The words for 'sail' and 'mast' (*Pāy* and *Pāy-maram*) are clearly Dravidian. Nor is the word for anchor (*Nankūra*) a foreign word. Though the mariner's compass was unknown, there were ways of directing the ship landward, for example, by the use of trained birds mentioned in the *Dīgha Nikāya*.¹⁶ There are native words for boats of all sizes in the Dravidian languages: *oḍam*¹⁷ or *ote* (which means the jungle reed out of which the first boats and rafts were made), *ḍoṇi* or *toṇi* (which means something 'scooped out,' hence 'a dug-out'), *teppam* (a raft, a number of logs 'sewn together'), *kalam* and *kappal* (a 'vessel' with raised edges and 'covered deck'). These are described by Pliny and by the author of the '*Periplus*'. "There are ships of the country coasting along the shore as far as Damirica (Tamilakam) and other very large vessels made of single logs bound together called *Sangara*, but those which make the voyage to Chryse

13, 14. *Cambridge Ancient History*, Vol. 1, pp. 232, 348.

15. Canto XIV.

16. *Dīgha Nikāya*, I, p. 222.

17. *Ōḍam* (old Tamil), *Ōḍa* or *Vāḍa* (Telugu), *Ōḍa* (Kannada), *Ote* (Hale Kannada), *ḍoṇi* (Kan.), *aḍṇe* (Hale Kan.), *Tōṇi* (Tamil-mal).

and to the Ganges are called Colandia and are very large.”¹⁸ “The navigation was formerly confined to vessels made of rushes rigged in the manner familiar on the Nile. The vessels of recent times are built with prows at either end, so that there may be no need of turning around while sailing in these channels, which are extremely narrow.”¹⁹ There is evidence even now of various forms of boats and ships known through the ages, existing on the Malabar coast.

The steady development of sea-power by South Indian peoples will be clear on an examination of these Dravidian words and of the nautical terms found in Vedic and Sanskrit. The Rig-Veda reveals to us the Aryans anxious to partake in the profits of sea-trade, judging from the expression *Sanishyavah* applied to people going into the *Samudra* (R. V. I. 56. 2; IV. 55. 6). The word *plava* denotes a boat (R. V. I. 182. 5) and *nau*, a ‘boat, or ‘ship’ (R. V. I. 131. 2; II. 39. 4). The word *nāva* which means ship occurs only once in the R. V. and that is in I. 97. 8. It is noteworthy that most of these passages occur in the first *maṇḍala* which admittedly belongs to one of the latest strata of the *Rig-Veda Samhita*. The word *dāru* (a dug-out canoe) occurs only in the latest *maṇḍala* of the R. V. (X. 155. 3). The only part of a ship referred to in R. V. is *aritra* (oar). There is no word for mast or sail or rudder, and no clear word for boatman except *aritra*, whereas the terms *nāvāja* (boatman) and *naumaṇḍa* (rudder) occur in later texts like the *Satapatha Brāhmaṇa*. The term for navigable stream (*nāvya*) occurs only in three passages all of which are in the first *maṇḍala* (33. 11; 80. 8; 121. 13). Nautical terms are absent in the Yajur Veda with the exception of *aritra* which occurs only in one recension of it, probably the latest, known as the *Vājasaneyi Samhita*, though *samyāna* and *plava* denote ships on voyage (T. S. V. 3. 10. 102; VII. 3. 5. 2). The word *Śambin* occurring in the Atharva Veda (IX. 2. 6) might possibly be connected with the obscure word *Śamba* occurring in the R. V. (X. 42. 7).

A study of these words discloses Dravidian influence on Aryan navigation. The word *aritra* strongly reminds one of the ancient Dravidian word *harigola*, derived from the roots *hariva* ‘to progress’ and *kol* (stick), the stick or oar which propels a boat, and later on came to denote the boat itself. The word *parshaṇi* occurring in R. V. (I. 131. 2) appears to be a variant of the Tamil form *parisal*, and to these we will have to affiliate the Vedic word *parshat* which has puzzled students in several passages. The word *Śamba* reminds one of the Malay Sampans, and of the Sambos described by Arrian²⁰ as having their capital far west of the Indus, certainly a maritime people as clear from the word *Śambin* (boatman) in the Atharva Veda (IX. 2. 6).

18. Schoff's Trans., p. 46.

19. VI, 24. (McCrindle's Trans.)

20. McCrindle: *Ancient India*, p. 40.

This influence of the Dravidian is also in evidence in later times. Among the nautical terms found in Kautilya's *Artha Sastra*²¹ are *veṇu* and *veṇuka*. The *veṇu* has no Vedic equivalent but corresponds exactly to the Dravidian *ōḍam* (reed) and represents probably a huge raft of bamboos bound together, as Kautilya has the other word *veṇuka* which, like the leather basket (*driti*) was used on ordinary occasions. The borrowing from the Dravidian is clear in the *Amarakosa*. Among the synonyms of *plava* here are *uḍupa* and *kola* evidently adaptations of *oḍa* and *harigola*. The evidence of language is confirmed by what we know of the technique of boat and ship-building. The boats described in the Buddhist texts show no use whatever of iron. The vessel used by Dantakumara and his wife at Tamralipta, bound for Ceylon, is described as built with planks sewn together with ropes, and fitted with masts and sails.²² The planks were joined with pegs of bamboo or cane and it was considered unsafe, as we read in the *Milinda-Prasna*²³ "A ship pieced together with timber of all sorts is broken up by the force of the violence of the waves." The use of iron hoops would have saved the situation in such cases, but the Dravidian ships were entirely of wood, and for really good reasons, in the early period. The pliancy of a stitched boat is certainly useful in a surf. Secondly, there were primitive islanders in the south who made a piratical quest of iron. Centuries later, Sir John Mandeville²⁴ swallowed the popular story why the use of iron was avoided. A ship that had iron bonds or nails would perish, says he, as the sea was "full of lode-stones or adamant". Perhaps there was trouble from the Nicobar islanders who made a piratical quest of iron, as mentioned in Ptolemy's *Geography*. But such reasons could not have deterred the peoples of the North from the use of iron hoops in their westward voyages. The influence of a strong South Indian tradition can alone afford anything like an explanation.

III

The development of sea-power necessarily implies a long process of evolution in the art of ship-building of which the various stages can be dimly distinguished in the light of linguistic evidence. The oldest boat was no doubt made of the jungle cane (*ōḍa*) and was retained even later as Pliny²⁵ mentions it and remarks that the reed was of so prodigious a length that a section between two nodes could make a canoe capable, in some instances, of holding three men.

21. Chap. IV, p. 3.

22. *Sankha Jātaka*. (No. 442.)

23. IV. 2. 32. (*S. B. E.*, Vol. 35.)

24. *Travels*, Chap. 53.

25. In McCrindle: *Ancient India*.

The next stage was reached with the split bamboo, which must have suggested the idea of scooping out wood, whence the *doṇi* (dug-out). Thirdly, the *teppam* of floating logs, fastened by ropes, gave better carrying power and stability. Side by side, we have the coracle (*harigolu*), more or less of the same pattern as the Assyrian and Babylonian boats described by Herodotus.²⁶ The next stage in boat-building is associated with the development of carpentry. Planks hewn from logs gave rise to the *plava* which may possibly be connected with *aini plāvu*, a species of the jack tree used to this day by boat-building fisher-folk on the Malabar coast. Lastly, we have the protection of the sides denoted by *kalam*, and the deck 'covered over' denoted by *kappal* (from 'kappa' in Telugu meaning 'a covering,' as in Canarese, *Kappal*). The Vedic words corresponding to these in meaning are the *dāru* (wood, dug-out, in R. V. X. only once), *dymnam* (raft, in R. V. VIII. 19. 14 and T. S. I. 14), *samyāni* and *nauyāna*²⁷ protected by banks of oars on the sides (R. V. I. 116. 5 and *Tait. Ār.* I. 1. 10), *aritra* already cited, and *parshat*, in numerous passages. The later Sanskrit word *Karpara* is evidently a borrowing as shown by its fantastic derivation (from the root *Kriṣ* *Samardhye* which indicates 'skill in navigation'!). Though the word *dymna* is obscure in sense when it first occurs (R. V. VIII. 19. 14) it certainly indicates the platform of a vessel in T. S. (I. 14) : *Dyumnā Tasthi-vāmso Janānām*, of which both Sayana and Prof. Keith make nonsense by explaining the word by the later or alternative meaning of 'wealth'. As Ed. Warr remarks in the *Encyclopædia Britannica*²⁸ none of the classical methods of ship-building survives in the Mediterranean : they have to be looked for in the East. It will be clear now that the *keel* had its proto-type in the log which was the parent of the dug-out ; the rudimentary ships, in the coracle with ribs and cross-pieces, and the 'platform' with which sea-going raft is fitted to protect goods and persons from the wash of the sea ; and the finished vessel appears, when the upright timbers fixed upon the logs forming the raft support a kind of deck which in turn is fenced in and covered over.

IV

Ancient Tamil works give us some idea of the sea-faring peoples of South India at the dawn of history. Perhaps the earliest of them—the Kols—have left no memorials other than their place-names. Kolhapur on the Bombay coast, Kollam (Quilāṇḍy) in North Malabar, Kollam (Quilon) in South Malabar and Colombo (Kolamba) in Ceylon are the names of places which bear silent witness to the dispersion of the Kols along the west coast of South India in prehistoric ages. The earliest literary reference to the people

26. *Herodotus*, I. 194.

27. *Divyāvadāna* (Cowell & Neill's Edition), p. 386, L. 9.

28. *Vide* Articles on 'Boat' and 'Ship'.

is in the *Mahāvamśa*,²⁹ which mentions king Dutthagamani as pitching his camp in Koḷambahāḷaka. The place is called Koḷambahāḷaka (the *āḷaka* of the Kolambas) and the seat of a great battle between the Dravidas of South India and king Vattagamani of Ceylon. It was near Anurathapura. Sirināga remitted the tribute known as *Kulumbana* which Geiger considers an obscure word meaning perhaps 'a tax on single families'. Considering that Kulamba is the Tamil corruption of Columba, I have no hesitation in deriving *Kulumbana* from Kolamba and Pana, and explaining it as a tax which had been levied in the times of Kolarian rule in Ceylon, and which was remitted by the early Nāga kings who succeeded them. Dr. Oppert³⁰ proves that *Kuḷu* and *Koḷa* are forms of the same word. It is interesting to note that the Kols had become regarded as a South Indian people, like the Pāṇḍyas, Chōḷas and Cheras, in the early Sanskrit works, the Epics and Puranas. They are regarded as the sons of Akrīḍa and descendants of Dushyanta. But their connection with the Nāgas was regarded as even more intimate than that with the Pāṇḍyas or Chōḷas. This is clear from the expression 'Koli Sarpah' which in one MS. appears as 'Kola Sarpath'. Their habitat reached as far north as Kanyākubja (Kanauj) which was the capital of Kōḷancha according to the *Sabdaratnāvaḷī*.

The Nāgas appear to have wrested the domination of the coast from the Kols. They are semi-mythological beings in the Sanskrit works, and the terms in which they are referred to imply that they were islanders who had almost entire command of the sea. Their location in the nether regions points to the fact that they emerged suddenly from their homes on the waters. That they came into contact with the Aryas only in South India is clear from the non-mention of their name in the Vedic literature, and the legend of Pratardana who went to their assistance against the Gandharvas, at the instance of Narmadā, the sister of the Nāgas. The marriage of Arjuna with Ulūpi shows that the Nāgas were a historical people whose women were handsome and were regarded by the Aryas as marriage-worthy. Other instances of marriage are found in Sri Rama's son Kusa marrying Kumudvatī. The *Puranas* consider Nāgadvipa as one of the seven divisions of Bharata-varsha. We find the Nāgas fairly dispersed through the coast-lying regions of the Indian Ocean in prehistoric times, considering their place names—Negapatam on the coast of the Bay of Bengal, and Nager Coil on the Arabian Sea. We learn from the *Mahāvamśa* that they succeeded the Kols in Ceylon. The defeated Kols seem to have been driven into the interior. The *Mahabharata* has it that the Kauḷja Gireyas fought with Arjuna³¹ in

29. (25, 30 ; 33, 42).

30. *Original Inhabitants of Bharata Varsha*, p. 209.

31. *Āśvamedha Parva*.

the southern region where the Dravidas, Āndhras, Oudras and Māhishakas also are placed. Varahamihira places Kollagiri near the Chōlas who, we know, lived in the ceded districts, according to Yuan Chwang. Kōlāchala in the ceded districts was the native place of Mallinātha, the famous commentator of Kālidāsa. One of the earliest of Chōla kings, Kiḷḷi, married a princess of Ceylon. The Pallava prince Vīra Kūrcha married a Nāga princess. Putting all these references together, we get the impression that the Nāgas developed their sea-power, allied themselves with the Aryas of Hindustan and with the Chōlas and Pallavas in the south, entered into matrimonial relations with these princes on the continent of India, and expanded from the sea-coast into the interior of India in later times. Their expulsion of the Kols must be placed in pre-Buddhistic times, for according to early Buddhist traditions recorded by Yuan Chwang,³² Ceylon of Gautama Buddha's time was peopled by the Nāgas 'who set forth their precious commodities with labels of prices attached to them' which merchants of other countries paid before taking the things away.

The trade of the Pāṇḍya and Chōla countries was in the hands of the Tiraiyar. The Pāṇḍyas were known as sea-divers from prehistoric times. Their sea-trade made them rich, and the gates of their capital city are described in the *Ramayana* as embellished with gold, pearls and precious stones. The first king of Ceylon, Vijaya, married a Pāṇḍya princess, according to the *Mahāvamsa*, soon after the death of the Buddha. Pandya trade with the western world flowed out through the sea-ports of Komari (Comorin), Kōrkai, Kāyal and Pāmban, and the chief exports were pearls, jewels and aromatics. This trade was largely in the hands of the Tiraiyar, an indigenous people known as sea-farers to Sangam tradition. The *Tondai Mandala Satakam* represents them as having had business all over the Bay of Bengal—from Kadaram (*Burma*?) in the east to Singala (Ceylon) in the south. The Pangala and Pallava Tiraiyar were in the regions between. There are numerous references to them in Sangam works. Rudran Kannanar celebrates Ilan Tiraiyam in the *Perumbāṇāruppadai*. The prince was himself a poet who sang of Dharma³³ and of love.³⁴ The *Ahanānūru*³⁵ speaks of a Tiraiyan whose capital was Vengadam (Tirupati) and another at Pavattiri. Lastly, the *Irayanār Agapporul* mentions the *Ilantiriayam* as an ancient work, and refers to a Tiraiyan Māran as a patron of the second Sangam. This Māran must therefore be a much earlier chieftain than the one celebrated by Poygai as the contemporary of the Chōla king at the dawn of South Indian history, Ko Chengaṇṇan. Thus Tamil literary

32. Beal : *Life of Yuan Chwang*, Chap. 38, p. 101.

33. *Puram* 185.

34. *Narriṇai*, 94, 96 & 106.

35. *Aham* 85, 340.

tradition has preserved memories of sea-faring peoples of South India in prehistoric times, who according to commentators like Nachchinārkiṇiyār were connected with the Nāga princes by marriage.

We now come to the Kadambas, prehistoric sea-farers of the Kannada country. The *Puranānūru* ³⁶ reckons them among the oldest tribes of the Tamil-speaking world i.e., of the Dravidians. The *Paḍiṟṟupṭattu* speaks of their great sea-port (*peruvāy*). Their connection with the Greek world is established by Dr. Hulzsch's discoveries, and with China by the finds of Mr. Narasimhachar. Dr. Hulzsch ³⁷ identified Canarese sentences in a Greek farce found in the Papyrus of Oxyrhynchus (2nd cent. A.D.), and got a coin of Ptolemy Soter from the bazaar at Bangalore. Mr. Narasimhachar records among the excavations at Chandravati the finds not only of a *denarius* of Augustus but of a coin of the Chinese Han Emperor, ³⁸ Wu-ti, of the 2nd century B.C. The capitals of the Kadambas were Banavasi and Chandragutti, and the merchant chief Chandradatta mentioned in the story of the shipwreck in the *Manimekhalai* was probably a Kadamba chieftain. There are allusions to Kadamba sea-power, certain though symbolical, in the *Kaḍar Kaḍambu* (Kadambas of the Sea) mentioned in the Sangam works as having given trouble to Senguttavan Chera and his ancestors. One of the latter, *imaya Varumban Nedum Śeraladhan*, is celebrated as having won a great naval victory over the Kadambas ³⁹, in the *Silappadikaram* and the *Paḍiṟṟupṭattu*. The latter work speaks of Nannan, a Chera chieftain as having ruled from the *peruvāi* (great sea-port) of the Kadambas over the Konkana and Tulu countries. The Chera king Śenguttuvan not only defeated him and killed him, but destroyed the 'Kadambas of the Sea'. Many of the conquered Kadambas became agriculturists like Tuḍiyan, Pāṇan and Paṟiyan. ⁴⁰ But there is evidence of some of them having gone over by sea to the east coast of India, and being in power in Kalinga, Bihar and Orissa. Mukhalingam in Ganjam District is otherwise known as Jayantipura, and contains a temple dedicated to Madhukēśvara, ⁴¹ the tutelary deity of the Kadambas. It has been identified with Kalinganagara, the capital of the Eastern Ganga Kings of Kalinga. *Kadamba guda* is common as a place name in the districts of Ganjam and Vizagapatam. A line of Kadamba kings ruled in Magadha according to a Kannada work ⁴² in the Madras Oriental MSS. Library. The Croans have traditions of their having migrated from the Konkan to Bihar which must have been by sea, judging from their name.

36. *Puram*, 335.

40. *Puram*, 335, L. 7.

37. *J. R. A. S.*, 1905, p. 399.

41. *Ep. Ind.*, IV, N. 24.

38. *Mys. Arch. Sur. Reports*.

42. *Taylor's Catalogue of Oriental MSS.*, Vol. III, p. 60.

39. *Silap.* 28. 135, *Paḍ.* 2nd, 10.

V

We may close with an indication of the main outlines of the history of naval supremacy in historical times, the facts connected with which must be well known to readers of this Journal. On the Bay of Bengal the Andhras were a sea-power, as shown by the ship-coins of Yajña Sri Śātakarni which cannot merely denote sea-borne trade as this was existing long prior to his time, according to the *Periplus*. The sea-power of the Andhras on the East passed to the Pallavas as evident also from their coins which have the figure of a ship with two masts. The Pallavas were a branch of the Tiraiyar according to Tamil tradition, and their life-feud with the Chalukyas of the West may have been due to rivalry on the seas, more than to any other cause. If the Pallava city of Mahabali-puram be no misnomer, they may have taken the place of the Banas who were a prehistoric people, claiming descent from the mythical Mahabali, but expanding their dominion as far as Sri Sailam in the Kurnool district (whence they were expelled by the Kadamba King Mayūra Sarman) and to the Bay of Bengal along the coasts of Chingleput and South Arcot districts. Pallava supremacy was an indisputable fact in the seventh century. The Arabian Sea was dominated at this time by the Cheras whose chief means of communication was by sea. A number of sea-ports—Tyndis, Musiris, Cottanara and Kollam figure in the *Periplus*, in Ptolemy's *Geography* and in the itinerary of Cosmas Indicopleustes. We learn from an inscription of Raja Raja I that there was hardly any communication of the west coast with the interior till his time. Malabar traditions⁴³ and the geographical and topographical conditions of the country dominated by the Ghats, seem to bear out the truth of this statement. Communications were along two passes—through Satyamangalam and the Nilgiris on the north, and the Palghat gap on the south. Of these the former was the more popular land-route. But the Cheras were reaching the Bay of Bengal by sea, and communicating even with distant China.

The Chera empire of the seas was an uncontested fact till about the sixth century A.D. when the Chalukyas had dominion over the Indian Ocean. Nothing less is implied in the language of the Aihole inscription⁴⁴ of Pulikesin II who claims to have crushed at one sweep the Cheras, Cholas and Pandyas in the south; the Latas, Gurjaras and Konkans in the west, and Vengi in the far east, the country between the mouths of the Godavari and Krishna, where he set up his brother Vishnu Vardhana as Viceroy at Piṭhāpur (A.D. 615). Further north on the Bay of Bengal was the kingdom, extending from Ganjam to Bengal, of the Gauḍa king Śaśānka.

43. *Cochin Castes and Tribes*, Vol. I, p. 200.

44. *Ind. Ant.*, Vol. VIII, p. 242.

The conquests and exploits of Pulikesin and Śaśānka were along the coast-lying regions of the Indian Ocean. They were mortal enemies of Harsha who had been unable to punish the Raja of Bengal, and actually sustained reverses at the hands of the Chālukya king. Harsha's navy is not mentioned by Bana or by Yuan Chwang, and its absence may be presumed from the trend of North Indian tradition since the days of Kautilya. Would it be an untenable supposition that the real cause of Harsha's reverses was due to his lack of sea-power as against these masters of the Indian Ocean? Pulikesin's fleet is mentioned in the Aihole inscription as storming Puri in the Konkana country, which had been the queen of the Western Ocean.

Sea-power accounts also for the easy assertion of Chola supremacy in the tenth century. The idea of a Chola navy was probably due to Parāntaka (907-53) who married a Chera princess and was on friendly terms with the Chera emperor Vijayarāghava whose gifts are recorded at Tiruvorriyūr. Parāntaka's conquest of the Pandya country and of Ceylon is mentioned in the Tiruvālangāḍu plates and in the *Mahāvamśa* and is supported by the inscriptions found in Madura and Tinnevely. Parāntaka's victory over Sitpuli in Nellore may have been by sea, as the Chola power on land was weak, as subsequently shown at the battle of Takkolam and the reverses sustained by Chola arms against the Rāshtrakūtas. The end of the century takes us to the reign of Raja Raja I who appears to have been satisfied with striking terror into the hearts of the Rāshtrakūtas and Chalukyas, but pushed vigorously a policy of naval empire. The latter is evidenced by his defeating the Pandyas, crushing the Chera fleet at Kāndalūr Śālai (A.D. 996), and putting an end to the long anarchy at Vengi, by further successes ending in conquest of the Pandya and Chera dominions and of Ceylon, and lastly by his subjugation of '12,000 islands of the sea'. It is significant that in the same inscription⁴⁵ we have Kollam, Kolladeśam and Kodungallur (Quilon, Quilandy and Cranganore) grouped together and the mention of the island-kings (*Kaḍalarāṣar*) waiting on the emperor, while in another Kollam and Kalingam are mentioned together. The inference is irresistible that after crushing the Chera fleet, Raja Raja's navy was scouring at pleasure the entire coast region of South India.

The inscriptions of Rajendra, Gangai Konda, show that the Chola dominion was not merely along the coast line but extended to the high seas. His campaigns in Orissa and inroads into Berar, Bastar, Bengal⁴⁶ Kosala and Kalinga and his pillar of victory at Mahendragiri; and his conquest of Kaṭāha, bear witness to this. The Chola Crown Prince was viceroy of Pandya and overlord of the Kerala country, over which his authority was

45. *Madras Ep. Rep.* for 1911, No. 394.

46. *Ep. Ind.*, IX., p. 232.

effective, as also over Ceylon. Sea-power contributed to the strength and stability of the Chola empire.

Sea-power also added to the splendour of dynasties and of their international relations. We have the embassy of Pulikesin II to the Persian emperor Khusrau, mentioned by a Muhammadan historian⁴⁷ and represented in one of the Ajanta paintings (in cave No. 1). Gangai Konda Chola sent an embassy to China, perhaps to further trade, but more probably as successor to the Chera power in the international dealings of South India and China.

On the fall of the Chola power in the thirteenth century there was no master in the Indian Ocean, as the new dynasties were busy with wars inland and there was no attempt at empire except by Jaṭavarman Sundara Pandya (1251-91). Sea-power in South India, thus neglected by the Southern Powers, was re-established under Vijayanagar. It was the deliberate policy of Harihara I to secure his control of the west coast, and of Minister Lakkanna Daṇḍanāyak to extend Vijayanagar influence to the southern sea as far as Ceylon. The dynasties of Vijayanagar maintained this power down to the advent of the Portuguese and even after that event down to the last quarter of the sixteenth century.

47. *J. R. A. S.*, for April 1899.

THE SEVEN DWIPAS OF THE PURANAS.

BY V. VENKATACHELLAM IYER, ESQ., B.A., B.L.

(Continued from Vol. XVI, No. 2.)

THE first district named is Kuśāla. This is how it is spelt in the Books (with one exception) with 'l' for the penultimate character. In one text we have Kuśāka with 'k' in place of 'l'. I believe that this latter form is the correct one, notwithstanding that the support for that reading is not ample. Kuśāka is the district of *Cyzicus*, not simply the island as it stood before the time of Alexander the Great, but including also an appreciable extent of the mainland coast-district. The authors of *The Universal History* say that 'Cyzicus' was so called from an ancient king of that name.

The next district is Manonuga. It is stated that a mountain named Vāmana is the dominant feature of this district and has probably lent its name to the district also.

This mountain appears to be an offshoot, a little to the south and east, of the Bithynian Olympus.

The word *Vāmana* is a corruption of *Poimananon*. The dissimilation of P by V and *vice-versa* is well-known. The government of Poimananon was in this region. Following the lead of Professor W. M. Ramsay, it appears that it was one of the strongest fortresses. It is placed thirty-five miles to the south of Cyzicus on the river Tarsios, on the trunk road from Cyzicus to Pergamos.*

"Mr. Waddington and Dr. Lolling prefer the form *Poimanos* for the town. This, however, is a mistake, arising from a wrong conception of the origin of the name. It is true that Poimananoi are the people, and that the legend on the coins is the genitive of the name of the people. But in this, as in many cases, the people are older and the town is later. There were Poimananoi long before there was a Chorion Poimananon to serve as a central city. In this way there was not a city Poimanos, giving the name to the people Poimananoi, but only a people Poimananoi some of whom lived in the Poimananian town. The hero Poimes (Vāmana) is probably a mere eponymous invention."†

Travellers, and among them Hamilton, have identified this Poimananon with Maniyas.

* *The Historical Geography of Asia Minor*, (R. G. Society, Supplementary Papers, Vol. IV), p. 157.

† P. 158.

The Professor does not accord his support to that discovery. He criticizes Kiepert as to the position assigned by the latter to Maniyas on the map. He does not however appear to reject the notion altogether. At page 208 of his *Historical Geography*, he has occasion to mention Poimaneon and puts within brackets 'Maniyas' in an explanatory way.

After all, I venture to suggest that there can be no insuperable difficulty in accepting that Maniyas may represent the ancient name Poimaneon, if not the place itself. However that may be, we are not concerned here with the exactitude required to fix correctly the alignment of an ancient Roman road as a matter of historical research, but it should be enough to find that a certain district with a central township existed in or about this place.

We may take it from the Professor that the people gave the name to the township or district. The Sanskrit name of the district is given as Manonuga. This in itself is sufficiently suggestive of the identity. But I have a strong suspicion that Manonuga is only an abridged form of Vamanonuga lost to tradition.

The next district we have to deal with is termed Ushpa. This is not a proper name. It is a common noun used as a proper name. It means the hot or burnt country. It is the Sanskrit translation of the Greek name Catacaumene, spelt in a number of ways, which means 'the *district of subterranean fires*', or the burnt country— a district of Phrygia and Lydia, devastated by volcanic action in prehistoric periods. It is mostly a desolate region surrounded by hills, among which is found a large number of extinct volcanoes. It is the sauce-pan of Anatolia. It is through this district that the river Hermus flows. Travellers and geographers have given vivid pictures of this burnt-up country.

Chandler says of it :—"This region which is above or to the east of Philadelphia was named Catakekaumene or *underburnt*. By some it was reckoned in Mysia, by others in Mæonia or Lydia. It was sixty-two miles and a half long and fifty miles broad; anciently, the surface of the plain, which is now turf, was spread with ashes; and the range of mountains was stony and black, as from a conflagration, which some, who fabled that Typhon was destroyed there, supposed to have been occasioned by lightning; but earth-born fire was concerned instead of the giant and Jupiter. This was evident from three pits which they called the Bellows."*

Rennell says of this region that "it was so subject to earthquakes that it was supposed to be everywhere subject to subterraneous fires."†

* Chandler's *Travels in Asia Minor, etc.*, p. 246.

† Rennell's *Comparative Geography of Western Asia*.

This tract of unpromising land is thus described by Hamilton, an eye-witness :—*

“Different detached masses of an extensive table-land, once the bottom of an ancient sea or lake, and through which the Hermus has washed itself a deep and winding bed, were spread out before us, with many different peaks and mountains beyond, like islands in the sea. A little to the west of south, I caught the first view of the Kara Devlit or *Black Ink-stand* of Koula. Farther to the west are the other volcanic cones of the Cataca-caumene, with the adjacent summits of Mount Tmolus beyond. Streams of lava are still traceable in this lacustrine basin towards the Hermus, having descended from the cindery cone of the Kara Devlit.

“We reached the Hermus, we crossed and passed over.

“Beyond these were several rounded cones, the sources of former eruptions.

“We reached the dark and dismal looking town of Koula.”

Hamilton's account includes more than is extracted here. He speaks of two periods of lava, of volcanic cones all around Koula, and volcanic traces everywhere in the Cataca-caumene.

Next after this district we have the province of Prāvaraka. The last syllable ‘*ka*’ is the familiar Sanskrit suffix and may be dropped out. The word Prāvara would appear to be an adaptation of the Greek, ‘*Paroreios*’, the name of the southern portion of Phrygia abutting on Cabalia and Pisidia, a mountainous district, well-watered, fertile and populous. The ‘*a*’ in ‘*Par*’ was thrown after ‘*r*’, and then the form Pravara was evolved. The Greek word means ‘*along mountains*’.

Rennell says of this region :—

“The southern district of Phrygia was called *Paroreias*, and is a beautiful, well-watered and populous tract. The ridge of *Par-oreias* extends from west to east.”

The district next in order is named Andhakāraka. A mountain range also runs through it of the same name. The word Andhakāraka ordinarily means “blinding darkness”. Here, however, it is a proper name, the name of a district as well as of a mountain. It is probable that the mountain has extended its name to the district.

The word ‘*Andhakāraka*’ is undoubtedly of Sanskrit form. Is it the translation of some native name in use in ancient Anatolia? Was the name given by reason of any excessive darkness prevailing in that district? No, it is neither.

* *Researches in Asia Minor, Pontus and Armenia* (1842).

The Sanskrit '*Andha-kāraka*' is the adaptation of the Greek '*Anticragus*', a high range of mountains, running to the coast in Lycia, from north to south, and in parallel course to the Cragus. These mountains mark off the western from the eastern portion of Lycia. But the Purāṇic district of Andhakāraka may be taken to include the whole of Lycia and need not be confined to the western section of it.

We have proceeded to the southern arc. We have next to ascend through the western districts. We march northward and find ourselves in the district of '*Muni*' (मुनि).

This again is a corruption of the name '*Maeonia*', a name by which, we are told, Homer loved to designate, what some writers have stated to be, his native country of Lydia.

The authors of *The Universal History* have furnished a note on the name Maeonia. Say they:—"Whence this country derived the name of Lydia is not known. As to the ancient name of '*Maeonia*', Stephanus derives the word from '*Maeon*', the ancient name of the Meander.

"Though Lydia and Maeonia are used by most authors indifferently for one and the same country, yet they are sometimes confused. That part where Tmolus stood watered by the Pactolus, being properly called Maeonia, and the other lying on the coast '*Lydia*'. This distinction is used by Homer, Callimachus, Dionysius and other ancient writers. In later ages when the Ionians had planted a colony on the coast of the Aegean sea, and began to make some figure, that part was called Ionia and the name of Lydia given to the ancient Maeonia."*

Leaving Lydia behind and proceeding further north, we enter the district of Moesia or Phrygia Minor, extending to the Propontis and the Hellespont, and reaching the starting point of Cyzicus. This district in the Sanskrit scheme goes under the name of '*Dundubhi-swana*'.

The meaning of this name is '*The sound of the big Kettle-drum*'. In some of the Purāṇas, a mountain of the same name is associated with this district.

This must certainly sound as a very odd name for a district. What is its origin?

A Greek word is taken. It is slightly altered to sound like familiar Sanskrit. The meaning of the word as thus altered is taken as of a Sanskrit word and a synonym is substituted for it. '*Berecynthus*' is the Greek word. It is pronounced as Bheri-kanṭha (भेरीकण्ठः). Bheri is a big kettle-drum. The word Dundhubi (दुन्दुभिः) is a synonym for it, and means the same thing. The word Kantha, (कण्ठः) in Sanskrit means, primarily, '*the throat*'; and,

* *The Universal History*, Vol. IV, p. 387.

secondarily, "voice or sound emanating from it". It is paraphrased by the word 'Swana', (स्वनः) which is the same as the Latin 'Sonus', sound. We thus get the name Dundubhiswana (दुन्दुभिस्वनः).

"Berecynthus is mentioned as the name of a city of Phrygia. The Berecynthes were a Phrygian nation who worshipped the Magna Mater."*

"Berencynthia (adjectival form) was a surname of the goddess Cybele, which she derived either from Mount Berencynthus or from a fortified place of that name in Phrygia, where she was particularly worshipped. *Mount Berencynthus* again derived its name from Berencynthus, a priest of Cybele."†

The sources of information about this mountain are meagre, but there is a strong probability of its being one of the eastern ramifications of the Trojan Ida.

There is another matter relevant for discussion. Mons Dindymus (Dindymum) is the name of a mountain in Asia Minor. It appears that there are three or four mountains of this name. One is in Galatia, overhanging Pessinus; another at the sources of the Hermus; a third in the neighbourhood of Cyzicus; a fourth mentioned by Stephanus of Byzantium, but questioned by some writers, as being in the Troad. It is probable that the name was applied to more than one mountain.

There is, however, a consensus of opinion that the great goddess Cybele got her name 'Dindymene' from a Mons Dindymus, on the top of which her cult was assiduously pursued. It is a matter for surprise that each of these four mountains, claims the honour of having given the cult name of Dindymene to the Goddess. It so happens that in Sanskrit we have a word 'Dindima', of onomatopoetic formation, which means much the same as 'Bheri' (भेरी), though the 'Dindima' (डिण्डिम) is smaller as a drum. The Dindymus of the Troad might also suggest the use of the synonym. There is no difficulty, therefore, in accounting for the name Dundubhi-swana (दुन्दुभिस्वनः) for this district among such connections.

We shall now proceed to take note of the mountains. Some of these have already been noticed, in so far as the name of the mountain is suggested as being the same or about the same as the name of the district.

The mountains are named in the following order: Kraunca क्राञ्चः, Vāmana वामनः, Andhakāraka अन्धकारकः, Maināka मैनाकः, Govinda गोविन्दः, Nibida निबिडः. The first three names have been discussed already.

The range Maināka, मैनाकः, was, in all probability, intended for Mycale, which ends in a bold promontory near the estuary of the Meander. The

* Smith's Dictionary of Greek and Roman Geography, In Voc.

† Smith's Dictionary of Greek and Roman Biography and Mythology.

word मैनाकः looks like an adjectival form, from Maeonia, or Maeon, the former being the name of the province and the latter of the river.

The river flows to the south of the lofty range of Messogis in Caria. Mycale is the termination of this mountain. The river enters the sea at the place where Mycale dives into the waters and creates a cape and a reef. It is, therefore, very appropriate that the mountain Mycale should be called Maināka.

The story is related that Maināka, मैनाकः, a mountain, (place not stated) the son of Himālaya, sought refuge in the waters of the sea, from fear of the Indra, who started clipping the wings of all mountains; for, in a very ancient epoch the mountains were endowed with wings and were, therefore, prone to do considerable mischief.

The asylum in the waters of the sea is a poetical way of describing a sunken promontory.

The mountain Govinda (गोविन्द) offers no suggestion.

The last named Nibiḍa (निबिडः) awakens classical reminiscences. It is the Mount Sipylus in Lydia on which lies weeping the petrified form of the unfortunate Niobe.

Pausanias has recorded that even in his time people believed they could see the petrified figure of Niobe on Mount Sipylus.

Many even in modern times believed in the reality of the weeping Niobe.

It would seem the sight is only an optical illusion.

The phenomenon is explained by Chandler as the "effect of a certain portion of light and shade on a part of Sipylus, perceivable at a particular point of view". "The traveller who shall visit Magnesia after this information is requested to observe carefully a steep and remarkable cliff, about a mile from the town, varying his distance while the sun and shade, which come gradually on, pass over it. I have reason to believe he will see Niobe."*

The river names detailed for this Dwīpa are mere invention. They are of no help in this discussion. I hope, however, that what has been stated already is sufficient to prove the identity claimed of Kraunca-dwīpa with Asia Minor. The clue to the interpretation was lost with the authors. To recover it and unravel it were no easy task. If the proof given above is considered insufficient, I can only appeal to learned scholars to probe further into the matter and approve and justify my thesis, if correct.

Chapter XI.

I shall now deal with the Dwīpa named Gomeda or Gomedaka with the suffix 'ka'.

* Chandler's *Travels in Asia Minor*, p. 266.

Out of fourteen or fifteen Purāṇas this Dwīpa is recognized by only three, so far as I know at present. These three are the Skānda, Mātsya and Vārāha texts. It is however mentioned as one of the seven Dwīpas in the Siddhānta-Śiromaṇi of Bhaskarāchārya, a well-known Sanskrit work on Astronomy. After speaking of Jambū-dwīpa, in the first instance, he proceeds thus :—

भूमेरर्धं क्षारसिन्धोरुदक्स्थम् जम्बुद्वीपं प्राहुराचार्यवर्याः ।
अर्धेन्यस्मिन् द्वीपषट्कस्य याम्ये क्षारक्षीराद्यम्बुधीनां निवेशः ।
शाकं तथा शात्सलमत्र कौशं कौञ्चं गोमेदकपुष्करेच ।
द्वयोर्द्वयो रन्तरमेकमेकं समुद्रयोर्द्वीपमुदाहरन्ति ॥

He places it next before the Pushkara. Professor Dowson in his Dictionary of Sanskrit Mythology names Gomeda as an *alias* for Plaksha, a note, which is not correct, for which no authority has been cited and none can be found. He was probably led to treat the two Dwīpas as one and the same by something said in the Skānda-Purāṇa, as also by the circumstance that the three Purāṇas which admit the Gomeda-dwīpa into the list leave out the Plaksha from it. This was a matter of necessity, for the number seven of the Dwīpas could not be exceeded. Plaksha-dwīpa is omitted and Gomeda is named as one of the seven in a Vedantic work of repute named Yoga-Vāsishṭha. I understand that Gomeda-dwīpa finds mention also in the astronomical work named Romaka-Siddhānta.

As regards the place assigned to this Dwīpa in the order there is some diversity. The Plaksha-dwīpa which is left out where the Gomeda is admitted is the second in the sequence. But the Gomeda is not put in that place. This is one additional reason why the two cannot be regarded as identical. The Mātsya and the Vārāha Purāṇas give the sixth place to the Gomeda. The Skānda-Purāṇa ranks it as the seventh or the last, and shifts the Pushkara-dwīpa, which in other Purāṇas stands as the last, to the second place. There is hardly any justification for this arrangement.

Of the three Purāṇas, only one, the Skānda, makes an attempt to account for the name Gomeda. It is mere fable on the face of it :—

गोमेदनामा वृक्षोस्ति सुरम्यो यस्य छायाया ।

मेदो वृद्धिं गतं लौल्यात्तस्माद्गोमेद उच्यते ॥

“(In that Dwīpa) there is a *Plaksha tree* named Gomeda, a handsome tree, under whose shade fat increases and therefore the Dwīpa is called Gomeda.”

I am not sure that I understand the passage correctly. मेदोवृद्धिः as a *Samāsa* or compound is known to signify a certain organic distemper. But by reason of the case inflexion of वृद्धिम्, it is clear that it does not form a *Samāsa* with मेदः, so that the two words require to be read as separate.

The Plaksha is a big tropical tree. How did this Plaksha tree acquire the name Gomeda? This is not stated. It is probable that this remark of the Skānda-Purāṇa about the Plaksha tree being named Gomeda, and the fact that where Gomeda is admitted into the scheme Plaksha is left out, led Dowson to think that Plaksha and Gomeda were the same.

The fertility of a Sanskrit author's invention has supplied another explanation.

गोमेदे गोपति नीम राजाभूदोसवोद्यतः
याज्यो भूदन्निकल्पानां मौतथ्यानां मनोः कुले
स तेषु हरियज्ञाय(?) प्रवृत्तेषु भृगून् गुरून्
वव्रे, तं गौतमः कौपादशपत् सोगमत् क्षयम्
यज्ञवाटेस्य ता गावो दग्धाः कौपाग्निना मुनेः
तन्मेदसा मही छन्ना गोमेदस्सततोभवत् ॥ *

"A certain King of the line of Manu made preparations for the cow-sacrifice. The ill-starred prince discarded his family priest and purohit for the occasion, and engaged the Bhṛguś for ministration. The family priest resented this sorely. He laid a curse on the King who perished at once. The cows were all burnt to death in the sacrificial camp by the flames of the priest's anger. The ground was covered with streams of the fat of the cows and the Dwīpa was thereafter called Gomeda. "Go—cow and medah—fat)." It is not stated by what name the Dwīpa was known before the occurrence of this calamitous event. This is unfortunate.

The best account available of this Dwīpa is to be found in the Mātsya-Purāṇa. The matter in the other two is too brief to be of real help.

गोमेदकं प्रवक्ष्यामि षष्ठं द्वीपं तपोधनाः
सुरोदकसमुद्रस्तु गोमेदेन समावृतः ।
शात्मलस्यतु विस्तारा द्विगुणस्तस्य विस्तरः
तस्मिन् द्वीपे तु विज्ञेयौ पर्वतौ द्वौ समाहितौ
प्रथमस्सुमना नाम जात्यञ्जनमयो गिरिः
द्वितीयः कुमुदो नाम सर्वौषधिसमन्वितः
शातकौम्भमयः श्रीमान् विज्ञेयस्सुमहाचितः
समुद्रेक्षुरसोदेन वृतो गोमेदकश्चसः
षष्ठेन तु समुद्रेण सुरोदाद्विगुणेन च
धातकी कुमुदश्चैव हव्यपुत्रो सुविस्तृतौ
सौमनं प्रथमं वर्षं धातकीखण्डमुच्यते
धातकिनस्समृतं तद्वै प्रथमं प्रथमस्य तु

गोमेदं यत् स्मृतं वर्षं नाम्ना सर्वसुखन्तु तत्
 कुमुदस्य द्वितीयस्य द्वितीयं कुमुदं* ततः
 एतौ द्वौ पर्वतौ वृत्तौ शेषौ सर्वसमुद्धृतौ
 पूर्वेण तस्य द्वीपस्य सुमनाः पर्वतस्स्थितः
 प्राक्पश्चिमायतैः पादैरासमुद्रादिति स्थितः
 पश्चार्धे कुमुदस्तस्य एवमेव स्थितस्तु वै
 एतैः पर्वतपादैस्तु स देशोवै द्विधा कृतः
 दक्षिणार्धे तु द्वीपस्य वातकीखण्डमुच्यते ।
 कुमुदन्तूतरे तस्य द्वितीयं वर्षमुत्तमम्
 एतौ जनपदौ द्वौ तु गोमेदस्य तु विस्तृतौ
 अतः परम् प्रवक्ष्यामि सप्तमं द्वीपमुत्तमम् ॥

“I shall now speak of the Gomedaka-Dwīpa. It is the sixth in order and surrounds the ocean of spirituous liquor. It is double the size of Śālmala. There are two mountain-chains in Gomeda.

“The one is named Sumanāh. It is a solid mass of Black Antimony (?). The second is Kumuda, which grows abundantly medicinal roots and herbs of every variety. It is full of gold.”

“Gomedaka is surrounded by the Ocean of Sugar-cane juice, the sixth among the oceans and twice as large as the ocean of liquor. हव्य, Havya, was the first dynast of this Dwīpa. Dhātakī and Kumuda were the two sons of Havya. The first district, that of the mountain Sumanāh, is known as Dhātakī-Khaṇḍam or the province of Dhātakī, the elder of the sons. The second province, named Gomeda, that of the mountain Kumuda, was the province of the second son, Kumuda.”

“These two mountains are among the highest there. The mountain Sumanāh is in the eastern section and extends to the ocean with its branches projected laterally from east to west. The mountain-chain Kumuda extends likewise in the western section. These mountain-branches or spurs divide the Dwīpa into two halves. The southern half is Dhātakī-Khaṇḍam. The second province of Kumuda is to the north. These two are the only provinces of Gomeda.”

We can see in the above a suggestion that the Dwīpa was called Gomeda from Kumuda, or that both words are the same. Gomeda or Kumuda then was the name alike of the mountain, the district, and the ruler, i.e., of the people.

It should also be noted that, in speaking of the mountain, district or ruler, the first place is assigned to Dhātakī-Khaṇḍam. That being so,

* कौमुदम् would be better reading, (1) c. 123.

why should the Dwīpa be known by a name of secondary importance? It is, however, significant that it is so known.

The little that we have in the Skādam about Gomeda is contradictory of what we find in the Mātsyam. The Skānda names one इक्ष्वाकु not हव्य as the master of the Dwīpa. He had *seven* sons who gave their names to the *seven* provinces into which the Dwīpa was divided.

The Vārāhapurāṇa assigns the same place to Gomeda as the Mātsya, and fixes its position between the same two oceans as those mentioned in the Mātsya.

The only other item of information we have in the Vārāha Purāṇam is of considerable importance, though it looks small and unpretentious.

The mountain ranges are stated as being two. The one is named Kumuda; the other as तावतावसरः, 'Tāvatāvasara'. To go back a little.

The Skānda note has not concerned itself with the mountains. The Mātsya and the Varāha agree as to one of the mountains being Kumuda; the other mountain-chain is named in the Mātsya as Sumanāh and in the Vārāha as तावतावसरः, Tāvatāvasara.

This last word sounds strange. Wherefrom was it obtained? It is probable that the last member of the word, सरः is separable and Sanskrit, meaning a chain.

तावताव is a reduplicated form of ताव a word which appears to be borrowed from Turki, 'Tau' meaning a mountain-chain. This word figures prominently in Central Asian Orographical names. According to Hellwald, 'Tag' means *a mountain* and 'Tau' means a *mountain-chain*. *

So then तावतावसरः should mean a concatenation of mountain-ranges. Where then should we look for this Gomeda-Dwīpa?

To the north of the Himālayas, near about the Pamirs, between the Head-waters of the Oxus and the great mass of Belut.

Here lived the 'Comedi' known to ancient geography and history, a race whose exact ethnic family is not known, but whose existence and location is placed beyond doubt by ancient authority. Their mountains which are marked on the maps in parallels east and west are named Comedorum Montes, also Comedus east, Comedus west.

Hence the Sanskrit Kumuda. The name Tāvatāvasara is an excellent description of the tangled mass of Belut (Bolor) Tag dominating the country. The eastern Comedus Mons, is the outer line to the west of the Belut mass. We have already seen that Kumuda was the name of the prince, doubtless an eponymous progenitor of the nation.

* *The Russians in Central Asia* by Frederick von Hellwald. Translated into English by Lieutenant Col. Theodore Wirgman, p. 52.

Rennell says :—" Ammianus describes the seats of the Sacae to be under the mountains Ascanimia and *Comedus* Eastern, and joining to Drepsa, which may be taken for Anderab, a province of Bactriana. The mountains, Ascatancas and *Comedi*, appear in Ptolemy in the same situation. The Pamir Plateau was inhabited by the *Comedi* and the Sacae, the Sakita, of Edrisi. " *

" The mountain-range of the *Comedi* was in the country of the *Sacae* of Ptolemy. The *Comedi* lived on the Comedian mountains. "

" The Greeks first became acquainted with Comedorum Montes when they passed the Indian Caucasus and advanced over the plateau of Bamian along the western slopes of Bolor " (Belut Tag). †

" It is to be remarked that Ptolemy does not attach Imaus to the Comedorum Montes, but places the Imaus too far to the east. "

In the map of Scythia attached to Ptolemy's Geographical Books, the *Comedi* are placed in a position which appears to correspond to the Pamirs, except for the fact that the Imaus (meridianal) is placed erroneously farther to the east than it ought to be. The district is placed in the midst of mountains all round in a trapezoidal form with the note that the region of the *Comedi* is '*alta et montana*'. To the east of the Eastern mountain wall is marked '*Vallis Comedorum qua alter ad Comedorum montanam regionem ascensus est*'. To their east are marked the Byltae, and to the north the Sacae. The southern boundary of the Comedian district is marked as that portion of Imaus, which is horizontal in projection and begins where the Indian Caucasus ends.

According to Ptolemy the trade route to Seres proceeded beyond Bactra through the land of the *Comedi*, and onward from there to the Stone-tower, at the opening of the gorge through his Imaus. Col. Sir Henry Yule has this note on Ptolemy :— ‡

" Kiumi is probably the country of Ptolemy's *Comedi*. Remusat says it lay among the mountains of Tokharistan, south of the Oxus. But north of the Oxus would be more consistent with the data ; and it is north of the Oxus that the Kingdom of Kiumitha mentioned by Hiouen Tsang appears to lie, which is doubtless the same." (i.e., *Comedus*.)

Yule adds :—" It seems possible, however, that we have the name of the *Comedi* in 'Kawadian' or 'Kabadian', which Edrisi applies to the country between Termedh and Hissar and which still survives as the name of a town or village. "

* Rennell's *Geography of Herodotus*.

† Smith's *Geographical Dictionary*. (Dictionary of Greek and Roman Geography.)

‡ *Cathay and the Way Thither* in 2 Vols, (1846). Introductory essay, p. cl, Footnote.

D'Anville gives in his *Antiquité Géographique de L Inde, etc.*, a map of Central Asia, which is but a copy of Ptolemy's map. Rennell in his *Geography of Herodotus* has a map demarcating the satrapies of Darius.

The district of the Comedi is marked on this map. It is an advance on Ptolemy's *Tabula*. The error as to Imaus is corrected, and it is placed in position to mark the eastern boundary of the Comedian district. This district on the map is hemmed in all sides by mountains. The northern portion is marked as the Pamir plain and the southern portion as 'Comedi-Byltae', both within Imaus, the Byltæ being the eastern neighbours of the Comedi.

Rennell places the Sacæ to the west of the Comedi in the district of the five or more streams which form the Amu-Darya (Oxus). The district of the Comedi in Rennell's map is comprised between 70° to 73° longitude and between 35° to 38° north latitude.

The position of the unfortunate Comedi is further shifted in Kiepert's map, which perhaps is the last word on the subject.

In his *Atlas Antiquus (Tabula II)* the Comedi are placed between 68° to 70° longitude and on the tributary streams of the Oxus; that is to say, he assigns to them the district in which Rennell places the Sacæ. Kiepert locates the Byltæ (or Little Tibetans of modern geography) appreciably south of the Comedi.

* * * * *

The ancient Hindus were acquainted with a variety of precious stones. In Sanskrit literature they are mentioned as nine in number. As usual, the names often vary, and it is difficult to determine whether the varying names imply distinctive varieties or whether they are synonymous expressions.

Among these stones is one named Gomeda. The word in sound and spelling is the same as the name of the Dwīpa. Is it a mere phonetic identity or is there any connection between the gem or stone and the Dwīpa?

An attempt to ascertain the reality about this connection, if any, may be of some help in this discussion and cannot be characterized as irrelevant.

The history of the precious stones exhibits one particular feature. The material object that we now understand by a certain name was not always the one signified by the name through the long history of ages. The same name conveyed different ideas at different periods, in the case of some at least of the precious stones. The trade name was sometimes different from what the substance really owned.

It may be difficult for an uninformed layman to state what it was that

the early Hindus understood by the name Gomeda; nor is there any certainty that what now passes as Gomeda was known by that name two thousand years ago.

The word Gomeda as the name of a gem or stone has passed into all the Indian Vernaculars. In Molesworth's Maratha Dictionary, 'Gomeda' is rendered into English as "a Topaz or Chrysolite, a gem of a yellowish tawny colour."

In C. P. Brown's standard work, the English-Telugu Dictionary, the word Topaz has, for its Telugu equivalents, 'Gomeda and Pushyaraga'.

But Pushyarāga is something quite different from Gomeda.

Such is the uncertainty of the subject that in C. P. Brown's Telugu-English Dictionary the Telugu word 'Gomedikam' is explained in English as "a certain reddish stone—the *agate*, of the colour of the nails".

It should be Topaz, if his annotation in the other Dictionary is correct. About forty years ago the Madras Government issued an Administration Report compiled by its Officers. A big volume explaining words and entitled 'Glossary', of the nature of a lexicon, was issued as an appendix to the report.

In this Glossary we find Gomedaka translated into English as 'Cinnamon-stone'. The Hindustani or Persian equivalent is given as 'Yakut-i-zard'. (Zard means yellow.) No authority is cited.

It is further explained thus:—

"A yellowish brown stone, a species of *Garnet* found in Ceylon, etc. Has the same names as Sardonyx, "(Akeek-i-siyāh)". Siyāh is dark or black."

In Wilson's Sanskrit Dictionary, Gomeda is explained as "a yellow gem or precious stone brought from the Himālaya and the Indus, described as of four sorts, white, pale yellow, red and dark-blue, perhaps varieties of *agate*."

The next word after it गोमेदसन्निभः or 'what resembles Gomeda' is explained as '*Chalcedony* or *Opal*'.

Wilson's note that the stone was obtained from the Himālaya or the Indus, and that it was of several colours, was based on Sanskrit authority, though the same is not cited.

हिमालये वा सिन्धौ वा गोमेदमणिसंभवः

स्वच्छकान्तिर्गुरुस्निग्धो वर्णाढ्यो दीप्तिमानपि ॥

बलक्षः पिञ्जरो धन्यो गोमेद इति कीर्तितः

चतुर्धा जातिभेदस्तु गोमेदेऽपि प्रकाशयते ॥

ब्राह्मणः शुक्लवर्णस्स्यात् क्षत्रियो रक्त उच्यते
 आभीतो वैश्यजातिस्तु शूद्रस्तु नील उच्यते ॥
 छाया चतुर्विधा श्वेता रक्ता पीता सिता तथा ।

× × ×

स्फटिकेनैव कुर्वन्ति गोमदप्रतिरूपिणम् ॥*

“The Gomeda stone is produced in the Himālaya or the Indus. Clear and translucent, heavy, close-grained, rich in colour and shining.—*The white and the reddish-yellow stones are much valued.* There are castes among these stones. The Brāhmin stone is *white* in colour. The *red* one is of the Kshatriya caste. The Vaisya stone is *pale-yellow*. The Sūdra is *dark-blue*. The reflection of the stones is also likewise, *of four colours, white, red, yellow and blue.* Imitations of this stone are made from rock-crystal.”

It seems the stone was esteemed a good deal in the ancient periods, though not much thought of now except by persons of fastidious tastes and also by some who wish, from superstitious ideas, to complete the full tale of the nine varieties of precious stones, for a necklace or jewel.

It is recorded in the Śukranīti-sāra, a work of uncertain date, that the Gomeda was reckoned as very inferior among the gems. In Wilson's note, reproducing the Sanskrit authority, we should understand ‘the Indus’ as ‘Trans-Himālayan Indus’ in contact with the trade route to Serica.

If it came in the way of trade and passed through the hands of the silk merchants, those in India would only have a vague idea of the place of its origin, the truth about which would be kept as a trade secret by the intermediaries through whose hands the commodity passed.

The Gomeda stone, I venture to suggest, is the Jade of Khotan, which in the early days had a factitious value by reason of the exaggerated esteem in which it was held by the Chinese. This Jade or Jasper, as it was also entitled, passed westward in the way of trade through Ptolemy's station, the ‘Stone-Tower or Lithinos Pyrgos’, which lay either in Comedian lands or a little to their east; and from there through Comedian lands to India. The Indian trade, if it went as far as the Stone-Tower, would certainly not proceed farther. The barter or sale and purchase of articles between the traders of Eastern Turkestan and the Western districts would take place in the land of the Comedi. The Jade or Jasper would pass into India as a product of the Comedian lands and would be called by the same name.

This has happened to many articles of trade in the East and the West; the stuff or substance being often known by the name of the place from which it was immediately imported or derived. We read in the translation

* Extracted from the *Yuktikalpataru* of 1 Bhoja, in the *Śabdakalpādruma*.

of *The Russians in Central Asia*, that "among the more remarkable mineral productions of Turkestan must be included the Oriental Jasper-Nephrite or Jade-stone, which is highly esteemed in China under the name of 'Yer'. *The Pamir Kirghizes, bring rock-crystals, Jasper in various forms, and gold nuggets, to Yarkand and Kashgar.*"* Possibly this 'rock-crystal and Jasper' may be the Jade of Khotan, or perhaps a native product of the Pamir region passed in trade as a variety of the stone, and accepted by Indian traders as Gomeda.

Colonel Gerini identifies the Stone-Tower with Khoten. I am not competent to say anything about this identification. If it is correct there need be no reasonable doubt about the identity of Gomeda with Khoten (Khotan) Jade.

Miss Ella Sykes in her record of travels "Through Deserts and Oases of Central Asia" says,—"'Yu' is the Chinese name for Jade or Nephrite. This stone is valued above all others in China and is even spoken of '*as the quintessence of Heaven and Earth*'." "The Jade of Khotan has been known to the Chinese for over two thousand years. *Some Chinese writers also speak of the way in which it can be imitated.* The Jade is the monopoly of the Chinese Government." "This beautiful mineral is found in veins running through rocks of schist or gneiss *and is almost every shade of white, grey, green, yellow or black.*" "After the white the yellow is the most highly prized, and then comes the green and lastly the black." †

Benedict Goës who passed through these lands on his way to Cathay states as follows, speaking of Khotan Jade :—

"There is no article of traffic more valuable than lumps of a certain transparent kind of marble, *which we, from poverty of language, usually call Jasper.*" (1603 A.D.) ‡

The Dwīpa of Gomeda was so called from the name of the people who dwelt there. The Jade or Jasper is also known by the same name because at least it passed through that country, if some of it was not also produced there.

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The next Dwīpa to be discussed is the Pushkara-Dwīpa. But before starting that discussion, I wish to state that there is some confusion traceable in the Purāṇas speaking about 'Gomeda' as to the notions concerning this Dwīpa and the Pushkara Dwīpa. This confusion can be seen in the name of one of the two provinces of Gomeda-dwīpa as noted in the Mātsya.

* *The Russians in Central Asia*, translated from the Russian of Captain Valikhanof and others, by James and Robert Michell (1865), pp. 131 & 133.

† Pp. 215-216.

‡ See at p. 209 of Miss Ella Sykes' book and Yule's *Cathay and the Way Thither*.

It is Dhātakī-Khaṇḍam. The Vārāha Purāṇa does not give the names of the provinces, but we find inserted in a wrong context, when speaking of *Pushkara-Dwīpa*, a verse as set out below :

धातके धातकीखण्डं कुमुदस्य च कौमुदम्

धातके is a copyist's error for धातकेः. A perusal with attention of the passage in which this line occurs shows that it is thoroughly out of place in that context, and that it could have been meant to apply only to Gomeda-Dwīpa. The six provinces enumerated for Gomeda-Dwīpa in the Skānda Purāṇa have no existence except in invention. So that we must take it, following the lead of the Mātsya Purāṇa, that the two provinces are Dhātakī and Kumuda.

Now it will be seen when we proceed to the discussion of Pushkara-Dwīpa, that every other Purāṇa appropriates the name Dhātakī to one of the divisions of that Dwīpa, which also is sub-divided into two and only two districts.

That the Dhātaka or Dhātakī is an erroneous appropriation for Gomeda appears further from the Mātsya Purāṇa itself, where in the account of Pushkara there is a lacuna in a verse in which we should look for the name of the ruler :—

तस्य पुत्रो महावीरः पश्चिमार्धस्य रक्षिता ।

पूर्वार्धे पर्वतस्यापि द्विधा देशस्तु स स्मृतः ॥

‘His son Mahāvīra was the protector of the western half and in the eastern half, of the mountain also, the country is divided into two.’

The name of the ruler of the eastern half is not given. The compiler found in the Purāṇic texts the second name as Dhātakī, but he had already appropriated it for Gomeda, so that he had no name to suggest for the ruler of the eastern half.

MUNDAKOPANISHAD.

BY D. VENKATARAMIAH, ESQ., B.A., L.T.

(Continued from Vol. XVI (2), page 78.)

FIRST PART.

Second Section.

- *2. When on the altar is lit the sacred fire
That fed with faggots glows with moving flames
Then midst oblations of sacrificial ghee
Offered must be the food dear unto Gods.
- †3. Whose household fire its ordained dues doth miss
On days of new and full bright moons, alike
The quarterly and autumn rites, by guests
Unhonoured and unlit, of Vaisvadeva reft
Or kindled contrawise to sacred law,
He loses bliss in all the seven worlds.

* The method of performing *Agnihotra* is described as its performance is enjoined prior to all sacrificial acts. In the *Ahavaniyagni* ghee should be poured as an offering on the northern and southern sides on new- and full-moon days uttering the mantras—अग्नयेस्वाहा, सोमायस्वाहा. The daily *Agnihotrahuti* is to be given twice—in the morning with the mantras—सूर्यायस्वाहा, प्रजापतयेस्वाहा and in the evening —अग्नयेस्वाहा, प्रजापतयेस्वाहा. The *Ahuti* or sacrifice in the shape of boiled rice, cake, etc., should be deposited between the *Ajyabhagas* or the ghee marks as indicated above. This space is known as *आवापस्थानं*. Sankara says that the *Karma-marga*—the path of works, leading to *Swarga* is difficult to follow on account of the minute details laid down for observance, the least deviation from which is sure to result in danger.

† If the injunctions of the Scriptures are violated in the least particular the doer of कर्म will miss all the seven worlds and brings on misery to himself and to three generations above and three generations below him.

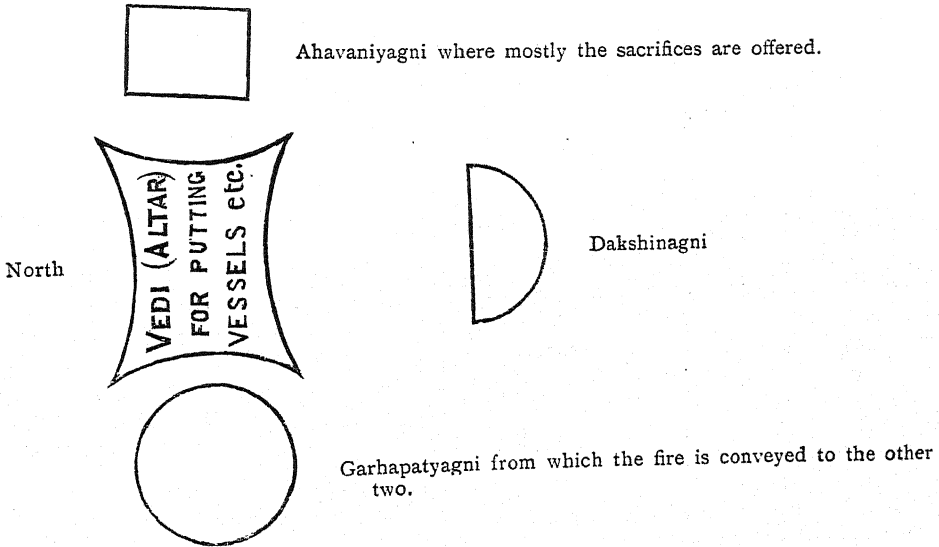
The maintainer of the household fire (अग्निहोत्रं) should perform the other obligatory rites referred to in this mantra as otherwise he incurs sin.

The *darsa* ritual is to be performed on new-moon days with पुरोडाश (cake made of ground rice) oblation to Agni, and curds or milk to Indra. On full-moon days four oblations of ghee and cakes should be offered.

The *Chaturmasya* is the quarterly ritual commencing in spring. The *agrayanaishtī* is an oblation of first fruits at the end of the rainy season. The *Vaisvadeva* is the daily oblation of boiled rice to the *Visvedevas* or the elemental deities.

- *4. And seven are the leaping tongues of fire
Kali, Karali, and Manojava
Sulohita, Sudhumravarna,
Sphulingini and goddess Visvaruchi.
- †5. And he that midst these shining tongues of fire
Doth sacrifice with observance of time,
Is led, by oblations poured, on solar rays
To where the Lord of Gods doth dwell supreme.
- ‡6. Come, come, they say—these libations bright, and waft
Along the shining paths of the solar rays
The sacrificer whom with words of love
And acts of worship they lead to Brahma-land
Proclaiming ' this's your need for works approved '.

The three principal fires maintained by the *Agnihotri* are as shown below.



* When the oblations are poured the flames leap up to receive them. The description of the tongues of fire with appropriate names is both natural and poetic.

Kali—Black, Karali—Terrific, Manojava—Quick-as-thought, Sulohita—Red, Sudhumravarna—Purple-hued, Sphulingini—Emitting sparks, Visvaruchi—All-lustrous.

† It is an ancient belief that those who perform sacrifices in accordance with the Vedic injunctions reach *Swarga*, the abode of the Gods, through the rays of the Sun.

यथाकालं—at the time prescribed for each ritual.

देवानांपतिः—Indra, the Lord of Gods.

‡ The goal for those who perform sacrifices is *Swarga*, here called *Brahmaloka*. The world of sensuous happiness awaits those that adhere to the ritualistic creed.

- *7. But perishable are all these varied rites,
Likewise unsure ; of small avail the works
Enjoined on sacrificers eight and ten.
And they the dull-witted who disport in them
As their highest good court oft old age and death.
- †8. Engulfed are they in depths of ignorance dark
Elate with pride of knowledge won, self-sure
Of learning vast, by ceaseless griefs assailed ;
Thus wander forth such witless men as the blind
When led by one himself bereft of sight.
- ‡9. And lost in the myriad ways of nescience dark
Vainglorious with thoughts of accomplished deeds
The witless men from love of meed see not
The nature true of rites and when the fruits
Of *Karma* cease fall from the shining heights.
- §10. Exalting acts of sacrifice and deeds
Of charity these foolish ones ignore
The better way to bliss supreme. Though raised
On high in *Swarga*, Land of Joy, ere long
They tumble down to earth or regions worse.

* All works destitute of understanding are only a source of sorrow. They are condemned as 'अवर,' inferior. 'अष्टादशोक्त'—enjoined on eighteen, i.e., the ritual performed by sixteen priests, the chief sacrificer and his wife. *Karma* depending upon these agents who by nature are perishable themselves, also perishes with all its fruit as curds and milk are spilt when the pots containing them are broken. Hence ignorant men who are ever engaged in the performance of sacrifices as their chief good and final hope taste the joys of *Swarga* for a while and then again enter upon decay and death. They cannot escape the current of *samsara*. 'सुबाह्येते अहदायज्ञरूपाः' may also be explained thus :—These ritualistic acts are like frail boats liable to be wrecked any moment.

The point to be borne in mind is that though extolling the ritual the *Sruti* eventually condemns in no uncertain terms a life of mere *karma* since it leads only to transient pleasures.

† 'पण्डितं मन्यमानाः' is a term of reproach applied to one who is full of conceit.

This mantra is similar to II—5 of *Kathakopanishad*.

‡ The happiness one enjoys in the region of *Swarga* as the reward of one's works is short-lived. It is the ignorance of the true nature of *Karma* that prompts men to seek enjoyment in the abode of the Gods. When the results of *Karmic* deeds wear out, the happy souls find that they can no longer sojourn in *Swarga* and are hurled down to the mortal earth.

Cf.—'क्षणेषु पुण्ये मर्त्यलोके विशन्ति'—*Gita*, IX—21.

§ इष्टापूर्त—इष्टं, sacrifices, enjoined in the Vedas. पूर्त, works of charity like sinking wells and tanks as enjoined in the *Smritis*.

People fondly believe that their highest duty consists in performing sacrifices and acts of

- *11. Others in forests seek their homes and lead
Severe their lives in holy rites engaged
Absorbed in Scriptural lore and unperturbed,
Learned, on alms sustained. These sinless souls
Through paths of solar rays proceed to where
The everlasting Lord in deathless glory shines.
- †12. Then let the seeker gauge the worth of worlds
Begot by endless deeds, their void perceive
And in renunciation find refuge.
The Eternal lies beyond the reach of works ;
And Him to understand the disciple true
In reverent mood and faggots in hand should seek
A sage whose thoughts lie centred in the Lord.
- ‡13. To him approaching thus with subdued mind
And senses all controlled the seer wise
Shall, in faith, impart that Brahma-lore
By which he has the vision of the Lord
The Absolute and Everlasting, True.

charity. They forget that for attaining Supreme Bliss and Light the only certain means is the knowledge of *Atman*. No doubt such men reach *Swarga* but after enjoying the celestial pleasure for a while are again born as men or even as lower animals. In other words, the text emphasizes the evanescent character of the fruits of *Karma* and points to the path of knowledge as the only road for attaining final beatitude.

* Among those who are God-ward bound there are three classes of men. First, those who place their entire faith in ritualistic sacrifices and deeds of public charity. To them the highest goal is *Swarga* with its transient pleasures. Secondly, there are those who after going through unblemished lives of householders withdraw in their old age to forest retreats and there remain engaged in study and thoughtful repose. These certainly are of a higher type and include *Vanaprasthas* and their goal is *Satyloka*, the abode of Hiranyagarbha, the first of beings, the Creator. Lastly, there are the *Mumukshus* desirous of obtaining final liberation through *jnana* and it is only they that realize Parabrahma—the Absolute and find *sayujya* or oneness with God. It is the second class of men that are referred to in this mantra and the word 'तपस्' signifies the duties enjoined on them. Sankara makes it clear that *moksha* is not meant here as the sense of duality persists right through even to the attainment of *Brahmaloka*. A life of piety, meditation and devotion to personal God leads to *Satyloka* but this is not realizing one's identity with the Absolute.

† The stage of renunciation is to be reached only after one understands the nature of the joys and sorrows of this world. True asceticism consists in turning away from the world not in a spirit of cynicism but after a careful sifting of all that the world has to offer. No man is fit to enter upon a life of self-abnegation unless he has first disciplined himself by constant observation, thinking and introspection. When the impermanence of things mundane is once realized there arises a genuine desire to find refuge in the Lord—the Absolute. To satisfy this desire he should seek in a spirit of reverence a *guru* who by his deep piety and devotion to Brahman can lead him aright.

‡ The obligation on the part of the teacher is no less binding. When a fit disciple seeks instruction it is his duty to reveal to him that knowledge by which the highest reality is grasped. He should help him across the dark and mighty ocean of संसार.

SECOND PART.

First Section.

- *1. This then is truth. As out the well-lit fire
In myriads dart the glowing sparks, even so
My gentle youth, from out the Changeless Being
Proceed the diverse souls and therein merge.
- †2. Resplendent, void of forms and Absolute
He dwells within, without, unborn ; unswayed
By moving breaths or by the thinking minds,
All pure and higher than the highest self.

* The object of this section is to explain the nature of Parabrahma from whom emanate and in whom merge the individual souls. He is Purusha and He is Truth Eternal, Knowing Whom all else is known. The object of *Aparavidya* on the other hand, as stated in the first *Mundaka*, is the realm of common experience and of relative truth. The analogy of fire and sparks is to indicate the relation between the individual soul and Brahman. The glowing fire is one but it sends forth numberless sparks, each of which is of the very essence of the parent fire. 'प्रभवन्ते' should not be understood as implying that the Jivas *originate* ; only the disembodied spirit becomes the embodied. Cf.—

‘यदिदं किंचित्तत्सृष्ट्वा तदेवानुप्राविशत्’—*Taittiriya*, II—6.

‘अनेनाऽऽत्मनाऽनुप्रविद्यनामरूपे व्याकरवाणि’—*Chhandogya*, VI—3—2.

To remove any possible misapprehension the Bhashyakara introduces a second illustration, *viz.*, the apparent limitation of space which is really infinite through finite adjuncts. Though space has no form its supposed configuration depends upon the large or the small vessel which happens to limit it for the time being, but when the vessel breaks the limited space merges in the universal space. Even so Purusha is one and from Him proceed individual souls conditioned by untold forms and names but they lose their separateness and dissolve in the Absolute when the limiting conditions disappear. The illustration given in the text points to the identity of Jiva and Brahman.

† पुरुष or the Absolute is higher than अक्षर which is the undifferentiated root cause of names and forms. He is unconditioned, the very essence of Akshara, shapeless like the sky and describable only by the attributes 'not that,' and 'not that.' अज्ञः—He is not born of anything nor is anything born of Him. Hence He is ageless, immortal, undecayed and everlasting. अप्राणः—Like mortals He is not filled with life-breaths which are the cause of movement and action. अमनः—He is devoid of the equipment of mind which is the instrument of intellection. In other words, He is free from both limitations, प्राण and मनस्.

‘अक्षरात्परतः परः’ means that the Absolute is above and beyond (परः) अक्षर or *Maya* which is itself higher than (परतः) the world of names and forms (क्षर). No doubt the अक्षर is sometimes described as Brahman itself but only looked at as the source of the universe which is about to emerge from It. This phase of the Absolute is termed in Vedanta works as *Avyakta* or *Karyanmukham Brahman*.

Cf. *Gita*, XV—16, 17.

“क्षरः सर्वाणि भूतानि कूटस्थोऽक्षर उच्यते ।

उत्तमः पुरुषस्त्वन्यः परमात्मेत्युदाहृतः ॥”

- *3. From Him alone is born the vital breaths,
Alike the mind and all the senses five,
So too the sky, the wind, the fire and Earth
Who on her breast sustains this burden vast.
- †4. The shining heights His crown and sun and moon
His eyes, the spaces vast His ears, His Word
Vedas sublime, the wind His breath, His heart
The Universe, His foot-stool, Earth. This Lord
Pervading dwells as the inner self of all.
- ‡5. From Him begot is the shining world above
Enkindled by the Sun, as faggots feed
The fire. The *Soma* thence begets the rains
From which upspring the plants and herbs on earth
Nourished by these commingle man and wife;
E'en thus from God all men derive their birth.

* The Absolute which is unconditioned, pure and changeless and the knowledge of which is *moksha*, becomes the cause of the universe not in a real sense but only as an object does of its reflection through the medium of a mirror. It is *avidya* that gives rise to the universe of names and forms which are all unreal and there can be no actual relation between them and the Eternal. The multiplicity of names arising out of mere speech is a myth :—

“वाचारंभणं विकारो नामधेयममृतम्” ।

Having defined in the first verse the nature of *Akshara*, the Pure, the Absolute, the *Śruti* now describes Him as *Ishvara* manifesting diversity in order that the truth may be understood the more easily.

† The immanence of God is here described. It is the *Ishvara* in His universal manifestation. The all-pervading nature of Divinity is brought out by conceiving the whole universe as His body. In comparing the universe to the हृदयं or heart of God the idea is that the world is as we conceive it to be, for the world ceases to exist in the deep slumber state when both mind and senses are withdrawn from the objective world. This is the idealistic position.

‘अग्निः’ means the luminous heavenly region.

Sankara regards this description to refer to Virat who though a different entity is also born of Purusha. *Vide* Brahma Sutra I. 2-23.

‡ Having declared that पुरुष is, in all beings, as the seer, the hearer, the thinker, and the moving spirit, the text proceeds to state that the whole race of man whose evolution has to be traced starts from the same cause.

The five Agnis referred to in the Bhashya are :—

बुलोकः—Shining world or starry region ; पर्जन्यः—Rain; पृथिवी—Earth; पुमान्—Man ;
योषित्—Woman.

For a fuller exposition of the पञ्चाग्निविद्या see *Chhandogya*, V.

- *6. From Him alone Rik, Sama and Yajus
Diksha, Yagna and all Yagas and gifts
And time and sacrificer and the worlds
Whereon the Moon doth shine or Sun, proceed.
- †7. From Him again are born the Gods and Powers
And Cherubs and men and beasts of earth and birds
Of air, the vital breaths and nourishing grains
Concentred thought and purpose high, straight speech
And celibate life and duty's sacred call.
- ‡8. The senses seven from Him alone are born
Their seven lustres too and objects seven
And seven-fold knowledge, seven abodes in which
They move, lodged thus by sevens within the heart.
- §9. From Him the oceans vast and all the hills,
From Him all rivers flow in diverse forms,
All crops of grain, all tastes by which engirt
With elements five the subtle body dwells.

* Everything connected with the ritual is also derived from Him :—The *Rigveda* in which the mantras follow the rules of prosody, the *Sama* which for purposes of chanting is either divided into five sections, or seven, often containing meaningless letters intended only to help singing (*vide Chhandogya*, II—2), the *Yajus* which is all prose, दीक्षा—vows taken on occasions when the agent ties up round his waist plaited *Kusa* grass (मौञ्जी), दक्षिणा:—gifts varying from one cow to the whole of a man's property.

The worlds of Moon and Sun are the *Pitriloka* and *Devaloka* reached by the sacrificers in the winter and summer months respectively according as they have sought *Swarga* or eternal happiness (*Brahmaloka*).

† Passing beyond the material creation the *Sruti* mentions the intellectual and moral faculties also as owing their origin to Him. Concentration of mind, faith, continence, duty—these are divinely enjoined qualities.

‡ The seven senses here mentioned are those of the two eyes, the two ears, the two nostrils and the tongue—all found in the head (शीर्षण्याः). प्राणाः—Senses and not vital breaths because they are described as moving within the sense organs (लोकाः); अर्चिषः—The inherent powers of the senses by which they illuminate their appropriate objects (समिधः). होमाः—Sensory knowledge.

§ The external world of oceans, mountains, rivers and plants is born of Him. The *Sukshma-sarira* here termed अंतरात्मा, the subtle body, is moored, as it were, between the body consisting of the five gross elements with their characteristic essences (रस), namely, odour, flavour, etc., and the *Atman*, and is a complex of seven elements—five *pranas*, ten *indriyas*, *manas* and *buddhi*.

- *10. And God Himself is all this world of deed
 And thought, Brahman is eternal and sublime
 He dwells within, enthroned in human hearts;
 Who comprehends the Deity thus, my friend,
 The knot of nescience rends while yet on earth.

(To be continued.)

* It is, therefore, to be understood that all this world which is a mere conglomerate of names and forms is born of Purusha. He alone is real. He alone is the universe. Apart from Him there is none. The query with which the discourse started, What is it knowing which all else is known?, is answered. You know all when you know *Parabrahman*. He who comprehends the nature of *Brahman*, the Supreme, the Immortal, the Dweller within the heart of every being and identifies his own Self with Him, casts off altogether the deep ignorance that clouds his intellect. He cuts asunder the knot of *avidya* which has so mightily held him in bondage. Notice it is distinctly stated that liberation takes effect here and now the moment ignorance is cast aside. Sankara says, 'जीवन्नेव नमृतः सन्', i.e., while yet alive and not after death. This is the *Jeevanmukta* state.

STUDIES IN BIRD-MYTHS. No. IX.—ON AN ÆTIOLOGICAL MYTH ABOUT THE COMMON HAWK-CUCKOO.

BY SARAT CHANDRA MITRA, ESQ., M.A., B.L.

THE common Hawk-Cuckoo (*Hiero coeeyx varius*—VAHL) is a well-known bird, and is found throughout the Peninsula of India and the island of Ceylon. It very much resembles a Shikra (*Astar badius*). According to the late Rāi Bāhādur Rām Brāmha Sānyāl, it is called “*Pāpiyā*” both in Bengali and Hindi. But the late Mr. W. T. Blamford, F.R.S., at page 213 of Vol. III of *The Fauna of British India* (Birds), says that, in Hindi, it is called “*Pupiyā Rupak* or *Upak*” and that in Bengali, it is called “*Chok-gallo*”.

It frequents the well-wooded countryside. It is well-known for its call-note which the ornithologist Jerdon terms “loud crescendo notes” which, according to him, sound somewhat like “*Pipeeha Pi-pee-ha*”, each repetition of which is higher in the scale. During its breeding season, which extends from April to June, this remarkable call-note is heard not only during the night but also by day-time.

This bird subsists by feeding upon caterpillars but largely on fruits and birds.

It lays its eggs in the nests of various species of Babblers.

The bird-fanciers of Bengal esteem this bird very much for its loud and sonorous call-notes, and keep it as their favourite cage-bird.

The late Rāi Bāhādur R. B. Sānyāl says, at pages 240-241 of his “*Hand-book of the Management of Animals in Captivity in Lower Bengal*,” says that these birds are wary and suspicious and look very much like a *Shikra* when darting down to seek some insect-prey as its food.

Curiously enough, the common Hawk-Cuckoo is called “*Chaitara Bau*” (चैतार बह) in some parts of Bengal.*

Regarding the evolution of the common Hawk-Cuckoo, the following ætiological myth is narrated in several parts of Bengal, the name or names of the district in which it is prevalent not being mentioned by the correspondent who has communicated this birth-story of the bird to the *Pravāsī*.

There lived an old woman in a certain village. She had no kinsfolk in this world to take care of her. By dint of doing hard work all her life, she saved a little money wherewith to carry on her livelihood in the fog-end of

**Vide* the Bengali Monthly Magazine, *Pravāsī*, published from Calcutta, for the Bengal month Asvina 1331 B. S. (September-October, 1924 A.D.), page 790.

her life. No one of her village knew anything about her hoarded money. Only one person knew of it, namely, the wife of a co-villager named Chaitā. One day, Chaitā's wife brought her co-wife's son to the poor lone old woman, introduced him to her as her own son, and, leaving him as security for the loan of money taken by her, borrowed all the hoarded money from the old woman and decamped. Her whereabouts could not be discovered thereafter.

Losing all her hard-earned money, the old woman became stricken with great sorrow at the loss of her wealth and died. After her death, she was metamorphosed into a common Hawk-Cuckoo or "*Pāpiyā*". Even down to the present day, she wanders about in the woods and forests and utters the undermentioned following call-note :—

१. "चैतार वह गो
२. ओ चैतार वह ।
३. टेका दे गो ।
४. टेका देगो ।
५. तोर पोला ते गो ।
६. तोर पोला ते गो ।"*

Translation.

- 1 and 2—"Chaitā's wife, O Chaitā's wife,
- 2 and 3—Give (me) back, (my) money,
- 3 and 4—Give (me) back (my) money,
- 5 and 6—Take back your son, O! take back your son."

The correspondent of the Bengali Monthly Magazine, *Pravāsī*, has mentioned the following as the second version of the common Hawk-Cuckoo's call-note :—

१. "हज कत दूर?
२. हज कत दूर?"

Translation.

1. "How far off is the Haj?
2. How far off is the Haj?"

Now, the question arises : What is the meaning of the word *Haj* in the foregoing couplet?

* *Vide* the Bengali Monthly Magazine, *Pravāsī*, for the month of Agrāhayaṇa 1331 B. S. (November-December, 1924 A.D.), page 246.

I am inclined to think that the significance of this word is its usual meaning of "the Muhammadan pilgrimage to Mecca". If I am correct in my interpretation, the foregoing second version of the common Hawk-Cuckoo's call-note would appear to be of Muhammadan origin. But it is impossible to state this definitely, as the *Pravāsi's* correspondent has not, unfortunately, given any ætiological myth that may be connected with this second variant of the *Pāpiyā's* call-note.

Dr. W. T. Blamford says that the Bengali name of this bird is "*Chok-gallo*" which means "*I am losing my eyes*". Most likely, the name of the common Hawk-Cuckoo is accounted for by some myth which was not known to Dr. Blamford and which I have not been able to come across. [Should some reader of this article be acquainted with the myth which accounts for the origin of the name "*Chok-gallo*", he will greatly oblige the present writer by communicating it to the pages of *The Quarterly Journal of the Mythic Society* of Bangalore.]

Now, to return to the discussion of the ætiological myth which accounts for the origin of the common Hawk-Cuckoo's provincial Bengali name being "*Chaitāra bau*" or "Chaitā's wife".

On analysing it, I find that the principal incidents of this folk-story are as follows:—

- (1) An old woman amassed some money by dint of hard labour.
- (2) She kept it as the wherewithal of her livelihood in the fag-end of her life.
- (3) She was defrauded of this money, by another cunning woman (Chaitā's wife).
- (4) Being stricken with great sorrow at the loss of her money which was the sole means of her livelihood in her old age, the poor lone old woman died.
- (5) Taking pity on her, the gods metamorphosed the deceased old woman into a common Hawk-Cuckoo or *Pāpiyā*.

We shall, now, try to find if there is prevalent in any adjacent country any myth or legend which is analogous to the preceding one and which describes the transformation into a bird of a woman who had died of extreme grief at the loss of her property. As the result of our research, we find that there is a similar ætiological myth current in the island of Ceylon and of which an abstract is given below:—

"Once upon a time, there lived an old woman who was very avaricious. She cared only for money and loved heartily to hoard it. She had, however, seven young and well-built sons who worked hard for the purpose of furnishing their avaricious mother with money.

Now, with a part of this hard-earned money, the old woman bought seven beautiful axes.

One day, she gave one of these axes to her eldest son and told him to go to the forest, cut a big load of ebony-wood and bring it home, so that she might earn more money by the sale thereof. The young man accordingly went to the jungle and began to cut down the ebony-tree. While he was doing so, a big leopard (*Cheetah*) came there and killed the young wood-cutter. When her eldest son did not return home even after nightfall, the greedy old woman rightly suspected that he had been killed by some wild animal. But so little did she care for her son's personal welfare and safety that she did not mourn at all for her eldest son's death but only grieved bitterly for the loss of her axe.

In a similar way and with the same object in view, she sent her remaining six sons, one after the other, to the jungle to cut and bring home ebony-wood. But all these six young men were successively killed by the very same leopard which had killed their eldest brother.

But the avaricious old woman did not feel any sorrow whatever at the death of her seven fine young sons, but grieved most heartlessly for the loss of her seven beautiful axes.

But this heartless avarice and greediness did not meet with the approval of the gods above who determined to punish her. Accordingly they metamorphosed her into a little dark-coloured bird which, all the night long in the beautiful island of Ceylon and often through the sunny day, cries: "*Hutporuwa! Hutporuwa!!*". The meaning of this cry is "Oh! my seven axes; Oh! my seven axes!"*

[Unfortunately, the collector of the foregoing myth has not given the zoological name of the little dark-coloured bird of Ceylon which is the transformed representative of the avaricious old woman.]

On comparing the Bengali myth with the Sinhalese one, we find:—

(a) That, in the Bengali folk-story, the old woman, who was not at all avaricious, died of grief at the loss of her money which was the only means of her livelihood in the fag-end of her life. Consequently, the primitive myth-makers of Bengal have done justice to her by depicting her as having been metamorphosed into the common Hawk-Cuckoo after her death. They have done similar poetic justice in the case of the myths relating to the evolution of the Indian Cuckoo (*Bau Kathā Kao*) and of the Spotted Dove.

* Vide "*The Story of the Seven Axes*" in *The Chummy Book*. By Edward Shirley and others. Published by Thomas Nelson & Sons, Ltd., London, Edinburgh and New York (Fourth year). Pages 57—66.

(b) But, in the Sinhalese myth, we find that the old woman was notorious for her avarice and greediness. She valued her property—the seven axes far more than the lives of her seven fine young and stalwart sons. She bitterly grieved at the loss of these axes and not at the death of her sons. In this case, the primitive myth-maker of Ceylon has meted out well-deserved punishment to her by transforming her into the little brown bird which cries "*Oh ! my seven axes ! Oh ! my seven axes !*" all through the day-time and all the night long.

REVIEWS.

Corpus Inscriptionum Indicarum.

BY DR. E. HULTZSCH, PH.D.

WE have before us the first volume of this work, containing the inscriptions of Asoka the Great. Fourteen edicts of this apostle of Buddhism form its theme. The origin and the situation of the rock and the pillar edicts and the minor rock and pillar inscriptions are described in interesting detail. That King *Dēvanāmpriya Priyadarsin* could be no other than Asoka, is attempted to be established in the first and second chapters of the work.

The writer gives us a vivid description of the Mauryan king's capable and benevolent administration from his capital, Pataliputra; and proceeds to tell us the story of Asoka's conversion to Buddhism, and his 'Dharma'. The magnanimity of the character of the king is manifested in his own words: "The following occurred to me: I shall issue proclamations on morality (and) shall order instruction in morality (to be given). Hearing this, men will conform to (it), will be elevated, and will (be made to) progress considerably by the promotion of morality." This then is a precis of the next three chapters. In the subsequent portion of the introduction to the book, the grammar of the *Girnar*, the *Kalsi*, the *Shahbazgarhi*, the *Dhauili* and *Jaugada* rock and pillar edicts and that of the minor edicts is fully explained. The student is thus completely equipped with the necessary information on the vowels, the consonants, *sandhi* declensions, conjugations and syntax of the languages. What a decided advantage to go straight into the texts!

Then follow the texts and translations. The original edicts are given in the respective **Brahmi** and **Kharoshthi** characters, followed by an English word by word pronouncing key and finally an English literal translation of each edict. The moral and disciplinary precepts like, "Obey your parents, help the aged and the weak. do not hurt or harm any living-being, wherever there are no roots or fruits cause them to be imported and planted" are profuse throughout the edicts.

Dr. Hultzsch, as can be expected, has not spared the least pains in trying to make this volume all that could be desired. Contributions and assistance have been given by Sir John Marshall, Rao Bahadur H. Krishnasastri, Government Epigraphist for India, Mr. Carl Plettner and Dr. J. F. Fleet. We should have had this volume in print so far back as 1914; but the outbreak of war and other conditions caused the delay. The reader is certainly benefited by the delay, since the book has been completely revised in the light of the latest researches. After one revision in 1922, it underwent another in 1924 and has been out only in the latter part of 1925. The book is replete with over fifty

large and superfine plates illustrating the various inscriptions. These are regular facsimiles of the originals photographed under the direct supervision of the author. This is a publication of the Government of India and can be obtained from any authorized agent. We very confidently recommend this excellent book to all lovers of historical research. The people of India must be most grateful to Dr. Hultzsch and his great undertaking in his venerable old age.

M. V.

The Life after Death in Oceania and the Malay Archipelago.

BY ROSALIND MOSS, B.Sc. (Oxon.)

"TRACING the connexion between burial-customs and beliefs in a future life among the more primitive peoples of Polynesia, Melanesia, and Indonesia.... in the hope that by a careful study and comparison of these beliefs and rites, some light may be thrown upon the early development of eschatological belief and the growth of funerary ritual, and a small contribution made towards the elucidation of the many ethnological problems of this area," was the motive of the author in writing this valuable book. It need hardly be said that this motive has been fully realized. Miss Moss has relied in her work on the accounts of first-hand observers, especially scientific investigators and on the writings of those who had touch with the natives before their contact with modern civilization. This work in regional studies is a companion volume to Dr. Rivers' researches relating to the ethnology of the Pacific. The author has succeeded in her attempt to trace the relationship between ritual practices and the beliefs of the people concerned. Whether the ritual practices arose out of a notion of the here-after world or such a pre-existing notion became the basis of the ceremonies is certainly an interesting thing to know. The author of this excellent book consisting of over 200 pages of solid matter tells us the results of her studies in a very lucid manner. Published by the Oxford University Press and priced at 14s/6., the book deserves a careful study by all interested in the sociological sciences.

M. V.

Navayuga.

(Sketch of the Career of Sevavrata Sasipada Banerji.)

BY MAHAVIDVAN K. R. CHAKRAVARTI, SARALAKAVISURI,
VIDYAVIBHUSHANA.

THIS small brochure, in Kannada, gives a bird's-eye view of the life and work of that great social worker and humanitarian of Bengal. Brahmasri Sasipada Banerji's first noble work was the emancipation and education of women. In spite of opposition from the orthodox, and the consequent sufferings, he plodded on and did a great deal for alleviating the difficulties and promoting the cause of the education of Indian women. He espoused and advocated the cause of the labouring class which looked to him as their trusted leader. He was a genial husband, a kind parent and an eminent philanthropist.

The book is written in a clear style and makes a very interesting and instructive reading.

S.M.S.

1. The Marriage Ceremony of the Parsees.
2. The Naojote Ceremony of the Parsees.
3. The Funeral Ceremony of the Parsees.

ALL BY SHAMS-UL-ULMA DR. JIVANJI JAMSHEDJI MODI, B.A., PH.D., C.I.E.

WE have received the above three pamphlets. The subjects of these books appear to interest, at first sight, only the members of the Parsee community. But, on the contrary, they are of greater interest to the student of religious history and ethnology. Ably dealt and clothed in fine simple language, the reader is given a correct and authentic account of the different ceremonies of the Parsees. It is needless for us to mention that the author's elaborate and excellent study of the Zoroastrian religion has placed the general public under great obligations to him.

M. V.

The Story of Satara.

By B. D. BASU.

THE Story of Satara by Major B. D. Basu, I.M.S. (Retired), must certainly be a revelation to many casual readers of History. We are all the more grateful to him for the trouble and time he must have spent in wading through all the Parliamentary and other papers relating to the Satara Raj since no English historian has so far treated the Satara affairs in that spirit of impartiality and historical accuracy which their importance demands.

He has produced in a most lively and interesting book the sad and regrettable history of one of India's unfortunate kings. All those who will have the pleasure of reading the book will, we doubt not, find food for deep thought. Pratap Singh and Rungo Bapoorjee are gone but this struggle for justice, their untiring efforts in the face of calumny, deceit and misrepresentation, their undaunted courage to the bitter end in that unfair contest must live after them, has lived and has borne fruit. They were the first advocates of constitutional justice—they were the pioneers of constitutional opposition—they were the martyrs of passive resistance and their successors reap the fruits of their struggle.

The efforts of Rungo Bapoorjee in England, the co-operation of some of his English friends and the outbreak of the Indian mutiny, finally opened out the eyes of the English Government to the disastrous policy followed by the home directors in India. If then we enjoy at present a larger share in the government of the country, we must not forget Bapoorjee who fought so bravely for the cause, and must thank Major B. D. Basu for giving us such a vivid picture of the long struggle and its first martyrs.

C. B.

Journal of Francis Buchanan.

ARCHÆOLOGISTS are indeed greatly indebted to Mr. V. H. Jackson for bringing out in print the Journal of Francis Buchanan kept during the survey of the districts of Patna and Gaya in 1811—1812. Apart from the personal charm that all diaries have, these journals are all the more interesting as they give us ink-lings into the many obstacles, moral and physical, that beset such a task and bring out in striking relief the indomitable character of the Englishman who attempted, with no little success, the first survey of these parts.

The publication of the Journal with notes and maps gives us many important points of interest that were omitted in the three-volumed abridgment of the Reports published in the "East Indian" by Montgomery Martin. Topographical, antiquarian, and caste peculiarities have suffered most from the scissors of the editor while the descriptions of Patna, Gaya, Bodh Gaya, Rajgir and Baragaon have been badly mauled, the detailed descriptions of the route followed by Buchanan in his journals help us to identify many important hills, mines, quarries,

caves and springs which the report would leave us at a loss to find. Buchanan's critical judgment always put to the test and as often rejected the informations that he gathered. This together with a lack of works of reference and adequate maps must account for the delinquencies that later archæologists find in his work. But considering the difficulties under which he worked, his accounts of the land, the hills, forests, the customs and the occupations of the inhabitants and his own maps are as accurate, as they could have been, under such circumstances, and we must ever remain grateful to Mr. V. H. Jackson for publishing this Journal.

C. B.

The Private Diary of Ananda Ranga Pillai from 1736—1761.

THE tenth volume of the Private Diary of Ananda Pillai from 1736—1761 which we have just received is as interesting and instructive as the previous ones. It throws quite a volume of light on the hitherto somewhat obscure doings of the French in India during this eventful period and by showing us the weak and corrupt administration of the Governor, Leyrit and his colleagues at Pondicherry, who were more interested in furthering their own private ends and satisfying their petty jealousies, we can easily understand how the interests of the French nation were jeopardized, and how the dissatisfaction that reigned around this corruption tended no little towards the consolidating of their rivals, the English in India.

We are grateful to the Government of Madras and Mr. H. Dodwell for translating the above diary from Tamil into English.

C. B.

NOTES.

The Crocodile and Its Sanctity in South India.

BY S. T. MOSES.

OF the living saurians of to-day, if the recently recorded survivors of the extinct genus Dinosaur are excluded, the crocodile is easily of the first magnitude. Its dense horny covering usually considered bullet-proof is described by Job in the 41st chapter. The Leviathan, however, which occurs in two other places in the Bible, stands for a sea-monster in Psalms civ : 26 and for a snake in Isaiah xxvii : 1.

The terror-striking aspect of the crocodile combined with its destructive power is enough to secure for it sanctity among men timid by nature or even otherwise. It is sacred to the Egyptians who consider it a fitting emblem of God because of two features. The eye of the crocodile, as in that of birds, is covered by a thin transparent membrane which made the ancients believe that the crocodile like God can see without being seen. The tongue of the crocodile being fixed to the floor of the mouth can neither be raised nor protruded. Hence the crocodile was believed to be tongueless by the ancients who saw in it a resemblance to God who never stands in need of speech but merely ordains all things by His will. The crocodile, according to the Hindus, is the vehicle of Niridhi, the regent of the south-west point of the compass.

The crocodile is carnivorous usually preferring meat rather 'high'. A story in Panchatantra tells us of the fondness of crocodiles for the liver of monkeys. It relates how a monkey friend of a crocodile while being carried to the home of the latter ostensibly on a friendly visit, was told the truth that Mrs. Crocodile wished to eat the monkey's liver and how the monkey escaped by his ready wit telling the stupid crocodile he had kept his liver up the Jambu tree. Monkeys are usually seen to worry crocodiles by swinging a branch of a tree over the lagoon and letting the tail drop into the mouth of the crocodile only to be withdrawn when the latter snaps its jaws. The game sometimes ends tragically. The pitcher goes to the well once too often and the monkey is caught and eaten by the patient and lucky crocodile.

To crocodiles, human flesh is a delicacy and accidents to bathers, etc., are common all the world over. The phrase "Crocodile's tears" is the surviving reference to an ancient belief that the crocodile—it really has large lachrymal glands—sheds tears over the hard necessity of killing animals for food. It is said to mourn and sigh like one in deep distress to allure travellers to the spot and then shed tears over the prey. Shakespeare in 2 Henry VI—iii, 1 says,

"Beguiled as the mournful crocodile

With sorrow snares relenting travellers."

A crocodile is said to be responsible for making Sankaracharya an ascetic. He had long wished to become one but his mother was against it and once when

ney were bathing in the river near Kalladi off Angamalai he was caught by a crocodile. He then cried out to his mother and wanted her permission to die as an ascetic and thus depart in peace. No sooner had she said that he was already an ascetic than Sankaracharya miraculously escaped from the crocodile and lived to be an ascetic. Even Mahadeva is said to have been bitten by a crocodile for a reference to it is found in a mantram used by Mannans which begins "Even as the swelling of the holy foot of Mahdeva due to the bite of a crocodile has subdued".

In Egypt there is a belief that crocodiles harm no people during the seven days sacred to Apis. In Kerala it is believed that no member of the Valluvar caste, a caste famous for the beauty of its women, is ever harmed by crocodiles. A common form of "trial by ordeal" is to make the accused wade through or swim across a crocodile-infested river or tank. Two such scenes of trial are the Muthala pula (Crocodile river) near Anjengo and a tank attached to the Pagoda at Palliport fifteen miles north of Cochin. In Africa men are believed to transmigrate after death into crocodiles and "Fetishmen" are credited with assuming the form of crocodiles to maim or kill their enemies. No such belief is current in South India, though immense sanctity is attached to the crocodile. It is in Kerala, however, that crocodiles are fed and feted in tanks or rivers attached to certain temples. Any attempt to kill these sacred animals is believed to result in the cecity of the irreverent. Many cases of such men, usually soldiers, are rumoured; but on enquiry, more often than not, retreat into tradition. In one case the delinquent is said to have regained his sight by offering a gold crocodile to the temple. Sanctity, however, is attached only to these special crocodiles, for those living free are hooked or netted and eaten with impunity by men usually belonging to castes like Nayadis, Kangjars and Ulladans. The flesh and particularly the bezoar (Gorosanam) found in the intestine are reckoned efficacious in cases of whooping cough. The sacred crocodiles are fed regularly by the priests. The sight of the Fakirs feeding them, *e.g.*, at Karachi, is an impressive one. The chief places in Kerala where sacred crocodiles are kept may now be mentioned. At Pommala is a rock-cut cave and a Hindu temple to which a tank is attached where a crocodile lives in royal but single state. Palliport has already been mentioned. Tripayar on the western bank of the Ponnani has a famous temple, the property of which consists solely of crocodiles adorned with gold and other ornaments. It is a religious duty on the part of the pilgrims to feed them. Last year, I am told, one of the sacred brutes escaped from the temple precincts but was brought back with musical honors, headed by a procession of devotees. At Madai—the railway station is known as Palayangadi—the temple has a pond where many young crocodiles and one or two large ones live. Their daily food is given by the Pidarans, the priests of the temple. Once a year when the grand annual festival of the Kavu is on, a huge metallic vessel full of rice cooked in milk and sugar and other eatables is placed on the brink of the pond. The senior crocodile drags the vessel into the water

and all of them partake of the offerings. The vessel was usually returned a day or two before the succeeding annual festival by a crocodile placing it on the edge of the pond. Some four years ago there was no sign of the vessel—my informant is sure some irreverent rogue forestalled the priest and stole it away—and so the offerings are now given in large leaf-plaited baskets.

The Mauryan Invasion of the Tamil Land.

MR. K. G. SESA AYYAR in his paper on 'The Kosar and the Vamba Mōriyar' has discussed with his usual learning and felicity a problem of great general interest for the student of Indian History (*Vide* Vol. XIV of this Journal, p. 275). I may say at once that I am inclined to think that his interpretation of the passage from *Ahananuru*, poem No. 251, is much more natural and agrees better with the literary traditions regarding the obscure people known as Kosar. Accordingly that part of Dr. S. K. Iyengar's theory which makes the Kosar the friends of the Mauryan invaders and the enemies of the Mogur Chieftain has to be given up. The Kosar were rather the friends of Mogur and helped the place to defy the Mauryan invaders. I am also at one with Mr. Sesa Ayyar in thinking that we have to reject the attempts to identify the Mōriyar of Mamulanar with the Guptas or the Konkani Mauryas. He shows good reason for our doing so in the paper referred to, and I have nothing to add to what he has said.*

But he totally rejects Dr. Iyengar's theory of the Mauryan invasion of the Tamil land and I am unable to follow him here. His reasons are—(1) "Before the word Mōriyar comes into literary use, the term Mauriyar of which the other is a corruption, must have been well-known in Tamil literature;" but there is no evidence of this in classical Tamil literature. (2) The current edition of the *Ahananuru* is not a critical one, the reading Mōriyar is not established. (3) In *Purananuru*, stanza No. 175, we have in a very similar passage the reading Ōriyar; this "collection has been carefully edited by Mahamahopadhyaya Pandit V. Swaminatha Ayyar, with its old invaluable commentary"; the ancient Scholiast has not noticed any alternative reading like 'Mōriyar'; we cannot attribute to him ignorance of the Aham collection; if in an almost identical passage in the *Aham* the reading Mōriyar was current in his day we must hear of it in his notes on *Puram* 175.

Now, I venture to differ from so sound a scholar as Mr. Sesa Ayyar with great diffidence; but I must say that I am not able to see the force of his arguments and that I think he has gone too far in rejecting the theory of the Mauryan invasion altogether. It will be readily noticed that Mr. Sesa Ayyar has made too many inferences from silence, a notoriously dangerous procedure to adopt in any discussion of this nature.

I shall now examine Mr. Sesa Ayyar's contentions in the order in which I have arranged them above: (1) I feel that much confidence cannot be placed in arguments based on literary usage, and there seems to be no imperative reason

* Mr. K. G. Sankar's attempt (*J. R. A. S.*, 1924, p. 666) to combine *Aham* 281 and *Puram* 175 into a reference to the Konkani Mauryas is not sound.

pace Mr. Sesha Ayyar and the analogues he cites) why Mōriyar should not have come into use without there having been a word Mauriyar in use earlier; why the term, for example, should not have been borrowed directly in its Prakrit or Pali form instead of being taken through Sanskrit, first as Maurya to be subsequently altered into Mōriyar. And further, we do not have the whole body of classical Tamil literature before us. At any rate this particular difficulty raised by Mr. Sesha Ayyar against the reading 'Mōriyar' will not be enough by itself to throw down the theory of the Mauryan invasion. (2) Mr. Sesha Ayyar says that the current edition of the *Ahanānūru* leaves much to be desired; I certainly agree that by the side of the now classic editions of Pandit Swaminatha Ayyar, the present edition of this important collection of Sangam lyrics is a bad piece of work. But even so, in *Aham* 281 the alternative reading Mōliyar is noticed by this edition; if no other readings are noticed at Nos. 69 and 251 the presumption is that the editor, whoever he was, did not find any alternatives in the MSS. before him. But Mr. Sesha Ayyar himself cannot make sense out of the alternative readings he has seen in the MSS. and depends largely on *Puram* 175 and the Scholia thereon. This brings us to his arguments under (3) above. It is curious that Mr. Sesha Ayyar should have urged these arguments in the form in which he has put them, that is, supposing that he wrote his paper not much earlier than the date of its publication, *viz.* July, 1924. Or, can it be that his attention has not been drawn to the second edition of the *Puranānūru* by Mahāmahopādhyāya Pandit V. Swaminatha Ayyar published in 1923? The reading now adopted by the illustrious Pandit in *Puram* 175 is Mōriyar; and more, he quotes as parallel passages in a footnote (p. 281) all the three passages from the *Ahanānūru* referring to the Mōriyar with that reading and no other. To make the matter quite clear to myself, I had a personal consultation with the Pandit; and he is quite clear that he has definitely given up all other readings found in the MSS. except Mōriyar. Mr. Sesha Ayyar argues, depending on the ancient Scholia on the passage, that the term Ōriyar vaguely rendered into Nāgar and Viccātarar refers to a trans-Himalayan martial tribe on a southerly march. The vagueness of Scholium is proof of the Scholiast's ignorance or what he was talking about; and I am glad to find that Pandit Swaminatha Ayyar is of the same opinion too.

The position then is this: The reading Mōriyar is supported by MSS. both of the *Puranānūru* (Pandit Swaminatha Ayyar noted it in the first edition also) and the *Ahanānūru* and there are other readings which are obviously corrupt and do not make sense. Under these conditions the form Mōriyar must stand. And there seems little reason to doubt that the reference is to the Imperial Mauryas. The reference to the Nandas by Mamulanar in *Aham* 251 and 265, and his reference in 281 to the southerly direction of the march of the Mōriyar do not seem to leave any reasonable room for doubt. The persistent reference to cutting through mountain passes and making a passage for the chariots of the invaders is, however, not now susceptible of any cogent explanation.

K. A. NILAKANTAM.

CORRESPONDENCE.

New Light on the Gupta-Vakataka Controversy.

THE history of the Vakatakas was almost a sealed subject, till a decade ago, except to a few specialists like Drs. Burgess, Buhler, Cunningham, Kielhorn, Bhau Daji and Pandit Bhagwanlal Indraji. The late Mr. V. A. Smith for the first time brought together the scattered material on the subject and wrote a succinct and comprehensive account of the dynasty in the 'Journal of the Royal Asiatic Society, London, 1914'. Dr. Jouveau Dubreuil of Pondicherry in his excellent 'Ancient History of the Deccan' published in 1920 has brought the history up-to-date and has devoted a whole section to this dynasty which, in his opinion, had the greatest influence on the culture and civilization of the Deccan. It was a happy idea of Dr. S. Krishnaswami Aiyangar, the learned University Professor of Indian History in Madras, to have taken up the subject for further investigation and to have included it in his scheme of special University lectures in 1923. The results of his investigation on the subject have been embodied in two articles, one in the 'Annals of the Bhandarkar Research Institute, Poona, 1924,' and a second in the 'Journal of the Mythic Society, Bangalore, 1925.'

As it is unnecessary to traverse the whole ground, this note will be confined to a few points of criticism raised by Mr. T. V. Seshagiri Ayyar and replied to by Dr. S. K. Aiyangar, and to some suggestions and modifications in regard to the Gupta-Vakataka inter-relationships.

But before doing so, I must say a few words at the outset to enable the readers to follow the controversy with interest and to appraise the new light attempted to be thrown on the subject. Towards the close of the third century A.C., the old order in Northern India changed giving place to a new one. The Vakatakas and the Guptas were slowly but steadily working their way to the forefront in close succession, in place of the Satavahanas and the Kushanas. The Vakatakas rose to power under one Vindhyasakti, the crest-jewel of the Vakataka family, and worked out their supremacy somewhat earlier than the Guptas under their first sovereign Pravarasena I—the Pravira of the Puranas. Pravarasena I ruled for a long period of sixty years, allied himself with the powerful Maharaja Bhavanaga of the Bhārasivas, performed four Asvamedha sacrifices and deservedly called himself a 'Samrat' having become a paramount sovereign. Rudrasena I, the grandson and immediate successor of Pravarasena I, dropped the title 'Samrat' and was content to call himself a mere 'Maharaja'. Meanwhile, Chandragupta I of the Gupta dynasty, unlike his predecessors who were simple Maharajas, deliberately assumed the title of 'Maharajadhiraja', for the first time among the Guptas. So far as I am aware, Dr. S. K. Aiyangar was the first to draw our attention to these two apparently isolated facts and to try to explain their

vital inter-connection and true historical significance. According to him, the dropping of 'Samrat' by Rudrasena I is a clear indication of a change of political status. Something adverse must have befallen the Vakatakas on the death of Pravarasena I and at the accession of Rudrasena I. The assumption of 'Adhirajya'—another imperial title—by Chandragupta I in 320 A.C., is an unmistakable indication of the higher status and dignity attained by him. There could not have been two 'emperors' at one and the same time in more or less the same region. The doffing of the imperial title by Rudrasena I must have been vitally connected with the donning of it by Chandragupta I. With true historic insight and imagination Dr. S. K. Aiyangar rightly infers from the above facts that the supremacy of Northern India must have shifted from the Vakatakas to the Guptas, and that Chandragupta I should have snatched the imperial title from his rival Rudrasena I and it was this more than his Lichchavi alliance that entitled him to call himself a 'Maharajadhiraja'.

But Mr. T. V. Seshagiri Ayyar tries to explain away the whole thing by saying that 'Adhiraj' and 'Samrat' were meaningless titles and that Rudrasena I scorned the bauble of 'Samrat' because of his extreme modesty and that Chandragupta I boasted himself a 'Maharajadhiraja' because of his vanity. This I am afraid, cannot be acceptable under the circumstances, though more light would certainly be welcome on the inference drawn by Dr. S. K. Aiyangar's.

There are one or two statements, however, of Dr. S. K. Aiyangar's contribution which appear to require reconsideration. For example, he tells us that Rudrasena I not only passively acquiesced in but even actively countenanced the 'Adhirajya' of Chandragupta I in the general interests of imperialism. This seems to be hardly tenable. For opinion is now slowly but steadily veering round to the identification of the Chandra of the Meharauli Pillar inscription with Chandragupta I, (*vide Ind. Ant.*, 1919) and if that be so, his Adhirajyaship would appear to have been challenged, by a confederacy of kings whom, however, he successfully defeated in Bengal. It was perhaps this high sense of responsibility that induced Chandragupta I to scan his son Samudragupta round and round in affection, with tears rolling in his eyes, and to choose him as his successor, as the most worthy to bear the burden of Adhirajyaship. Dr. S. K. Aiyangar assures us that Samudragupta's southern invasion kept clearly and deliberately outside the frontiers of the Vakatakas and this omission of the whole of the Deccan from the extensive list of his conquests is a clear indication that the Vakatakas had already entered into a friendly or even a subordinate alliance and were settled in it as early as the days of Chandragupta I and Rudrasena I. Mr. T. V. Seshagiri Ayyar rightly refuses to follow Dr. S. K. Aiyangar and tries to turn the tables against him with the very facts supplied by the latter and points out that the omission of the Vakatakas from Samudragupta's conquests is in itself strong evidence that he did not conquer them. Samudragupta's adversaries are enumerated in such great detail in his inscription that I think it would be a matter of surprise if the powerful Vakatakas

do not find a place. The fact is the Vakatakas are conspicuously mentioned in Samudragupta's conquests but Dr. S. K. Aiyangar failed to see them as he was looking for them in the wrong quarter, and Mr. Ayyar unfortunately took the Doctor's statement of omission for granted without any examination and made a clever use of it against him. Among the nine kings of Aryavarta uprooted by Samudragupta, not long after his accession, the place of honour is given to one Rudradeva. Who is this Rudradeva? Mr. K. N. Dikshit in a paper read before the First Oriental Conference, Poona, 1919, suggested the identification of this Rudradeva with Rudrasena I of the Vakatakas. Only a bare summary of his paper has been published in the Proceedings of the Conference and that does not unfortunately contain his reasons for the identification. I shall presently show that there is nothing against the identification suggested and almost every thing that we know of points in its favour. From the chronological standpoint, there cannot be any difficulty in the way of this identification. Working backwards from the grant of Prabhavati Gupta—the sheet-anchor of Gupta Vakataka synchronism—it can be easily seen, as is admitted by Dr. S.K. Aiyangar himself, that Samudragupta must have been a contemporary more or less of Rudrasena I. When I drew the attention of the Professor to this identification of Rudradeva with Rudrasena I as he was lecturing before the University, he did not give it the serious consideration it deserved, as he apparently thought that the Vakatakas were a Deccan power and that therefore Rudrasena I could not be identified with Rudradeva specifically mentioned as an Aryavarta king in Samudragupta's inscription. I may be pardoned for affirming emphatically that the Vakatakas were not at all a Deccan power but purely a northern power till the days of Rudrasena I. The Puranas speak of the early Vakatakas as belonging to the family of the Vindhya. The first chief of the family is known by the curious name of Vindhyaśakti, so called perhaps after his original abode. Their home must have been on the other side of the Vindhya somewhere in or about Central India, for Pravira is mentioned in the Puranas along with or immediately after the Kings of Vidisa (Bhilsa). It is not without significance that Dr. Kielhorn also classed them among the dynasties of Northern India.

The identification of Rudradeva with Rudrasena I being thus established, it is clear that Samudragupta defeated Vakataka Rudrasena I. It was probably this crushing defeat that made Prithvisena I, the son and successor of Rudrasena I, look to expansion in the south by the conquest of Kuntala, though he did not, as yet, give up his hold completely on his northern territory as well, as is evidenced by his Nachne and Ganj inscriptions near Allahabad in Central India. Prithvisena I, though an illustrious Vakataka monarch, did not dare to resume the lost title 'Samrat' during his long reign, as he found more than his match in Maharajadhiraja Samudragupta. Samudragupta defeated eleven or twelve kings of Dakshinapada. He overthrew nine republican tribes and came into contact with half a dozen distant frontier states and even Ceylon. He performed many Asvamedha sacrifices indicative of his suzerainty and he glories in having revived

the old world imperial sacrifice in Pataliputra. He put down even the powerful Nagas, the friends of the Vakatakas and allied himself with them by marrying Kubhera-Naga to his son Chandragupta II. It was only after the conquest of Kuntala in the days of Prithvisena I that the Vakatakas tended to gravitate towards the south. Chandragupta II thought it more prudent to cement an alliance with the Vakatakas after they tended to become a Deccan power by giving his daughter Prabhavatigupta in marriage to Rudrasena II, son and successor of Prithvisena I, partly to befriend a rival in their rear as well as with a view to safeguard the southern flank when he marched on an invasion against the western Kshatrapas of Saurashtra and Malava. Prabhavatigupta seems to have lorded over her husband Rudrasena II and acted as the queen-regent to her sons Divakarasena and Pravarasena II. Pravarasena II is called Kuntalesvara in Sanskrit literature as has been pointed out by Mr. A. Rangasvami Sarasvati. Thus it is clear that the Vakatakas became a purely Deccan power in the days of Pravarasena II. The enmity of the Vakatakas which had all along been smouldering revived again after a few years of slumbering during the days of Prabhavatigupta, in the days of Vakataka Narendrasena when the Gupta power was threatened by the attacks of the Hunas and the Pushyamitras. The Vakatakas turned against the Guptas once again and tried to extend their authority over Malava in the north in the days of Prithvisena II and Harisena.

From this revised review of the relations between the Vakatakas and the Guptas it will be seen that the Vakatakas, though they were compelled to drop the title 'Samrat' after Pravarasena I, were not willing to acquiesce passively in the Adhirajya of Chandragupta I, as has been assumed by Dr.S.K. Aiyangar. The Vakatakas were chagrined to find the supremacy pass over to the Guptas. That was why Rudrasena I had to be fought by Samudragupta. It is not till they tended to become a predominant Deccan power that the Guptas entered into matrimonial relations with them. For a time they willingly acquiesced in the overlordship of the Guptas during the days of Prabhavatigupta. After her death the traditional hostility revived and they who had been biding their time missed no opportunity to better their situation and even to turn the tables against the Guptas. Eventually they proved to be one of the causes that led to the break-up of the Gupta Empire.

From the foregoing brief survey it will be clear that the position generally taken by Dr. S. K. Aiyangar is substantially vindicated by further research, though one or two steps that he has taken have been found to be somewhat faltering by a further analysis of the Gupta-Vakataka relationship.

A. V. VENKATARAMA AYYAR.

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The Hon. Curator, Paliyam Mss. Library, Channamangalam.—

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2. Annual Report of the Archæological Department, Travancore State,
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3. Travancore Archæological Series, Vol. V, Part II.

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Ananda Ranga Pillai's Diary from 1736 to 1761, Vol. X.

The Government of India.—

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The Secretary, Indian Taxation Committee.—

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Selections from Sanskrit Inscriptions, Part I (Text).

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Journal of the Royal Asiatic Society, April 24, April 1925 and October 1925.

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